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6 September 2002

Mr. Michael Collins, On-Scene Coordinator
SE-5J
U.S. Environmental Protection Agency
Region V
77 West Jackson Boulevard.
Chicago, IL 60604-3507

Work Order # 12634.001.001.0289.00
TDD # S05-0207-012
DCN: 289-2A-ACBX

Re: Acme Steel Company Site Assessment, Riverdale, Illinois

Dear Mr. Collins:

On 29 July 2002, the U.S. Environmental Protection Agency (U.S. EPA) requested that the Weston Solutions, Inc. (WESTON®) Superfund Technical Assessment and Response Team (START) conduct a site assessment to determine the threats to human health and the environment at the closed-down portions of the ACME Steel Company facilities, in Riverdale and Chicago, IL. The main Acme Steel Company facility is located at 13500 South Perry Avenue, Riverdale, IL 60827 (see Attachment A, Figure 1A). The Acme Steel Company Chicago Coke Plant is located at 11236 South Torrence Avenue, Chicago, IL 60617 (see Attachment A, Figure 1B). The Acme Steel Company Furnace Plant is located at 10730 South Burley Avenue, Chicago, IL 60617 (see Attachment A, Figure 1-B).

1.0 Site History

On 28 September 1998, Acme Metals, Inc. and its subsidiaries, Acme Steel Company, Alpha Tube Corporation, Alabama Metallurgical Corporation, and Acme Steel Company International, Inc., filed separate voluntary petitions for protection and reorganization under Chapter 11 of the United States Bankruptcy Code. At that time, the company was in possession of its properties and assets and was managing them as a debtor-in-possession subject to the Bankruptcy Code.

On 16 October 2001, Acme Metals, Inc. announced it had begun a phased shut down of the operating facilities at Acme Steel Company, its subsidiary steel manufacturer. Since the Chapter 11 filing, Acme Steel Company assets have been marketed, but a sale had not been finalized. Therefore, an orderly shut down of the facility became necessary.

Following the decision to shut down Acme Steel Company, Acme Metals, Inc. continued to operate its profitable subsidiary, Acme Packaging, which has been restructured under a Chapter 11 plan. Acme Packaging currently operates at the Acme Metals, Inc. Riverdale facility and shares some space with the now-abandoned Acme Steel Company operations.

2.0 Daily Activities

START conducted a site assessment at each of the following ACME properties during the week of 29 July 2002: Riverdale, Chicago Coke, and Chicago Furnace Plants. Daily activities are summarized below for each of the five days of the site visit. Onsite areas of concern and potential hazards are highlighted. Prior to arriving onsite for the assessment, START prepared a Health and Safety Plan for the site and assembled all necessary personal protective equipment (PPE) and survey and sampling equipment.

2.1 29 July 2002

WESTON START members Ms. Sarah Meyer, Mr. Joseph Klemp, Mr. Donald Paxton, and Mr. Richard Mehl mobilized to the Acme Steel Company facility and met with U.S. EPA On-Scene Coordinator (OSC) Michael Collins. OSC Collins and START then met with Mr. David Holmberg, Director of Environmental Services at Acme Packaging Corporation. Mr. Holmberg was formerly the Director for Environmental Services at Acme Steel Company but moved to Acme Packaging Corporation after Acme Steel Company began to shut down.

According to Mr. Holmberg, the consulting group Weaver Boos and Gordon recently performed a Phase I site assessment at all three facilities (Riverdale, Chicago Coke, and Chicago Furnace Plants) and a Phase II site assessment at the Acme Packaging portions of the Riverdale facility. START requested and received a copy of the *Phase II Site Assessment Report*. A copy of this report is located in Attachment D.

Mr. Holmberg gave OSC Collins and START an orientation to the facility. He stated that the Chicago Coke Plant and the Chicago Furnace Plant are completely shut down at this time and that only security guards remain at these facilities. Materials are being removed, as necessary, as they are sold. The Caster Building at the Riverdale facility is relatively new and is also being shut down. There are still new, unused materials which are slated to be sold at the Caster Building. Mr. Holmberg also noted that every building south of Main Street at the Riverdale facility is no longer operating and that all facilities, in general, are mostly free of drums. However, he stated that asbestos contamination and pigeon guano are virtually everywhere onsite and polychlorinated biphenyl compounds (PCB) are present in numerous, well-maintained transformers onsite.

Security measures are also in place at each site. Mr. Holmberg stated that in addition to the security guards at each site, the sites have locked perimeter fences, and there are numerous security cameras around the properties. At the Riverdale facility, however, there is no fencing along the banks of the river, which is navigable and open to pleasure boating.

After signing in at the Riverdale facility security office on 29 July 2002, Mr. Holmberg escorted OSC Collins and START as they began to inspect the vacated portions at the Riverdale facility (Attachment A, Figure 2) south of Main Street. During the site investigation, air monitoring was conducted with a Multi RAE Plus, and field screening for radiation was conducted with a Micro R meter. Site observations were documented with a digital camera. The site inspection began in Building 9, the annealing facility, which Mr. Holmberg said was shut down in 1996. Photos 04, 05, and 10 in Attachment C depict the general state of Building 9. Scattered debris, grease drums, lead/acid batteries , and drums of kerosene were observed throughout the building. The annealing furnaces, piles of fiber, and refractory insulation were located inside the southeast end of the building (Attachment C, Photos 01 and 02).

During the inspection of Building 9, START noted many of the supporting pillars were numbered. At pillar D-15, which was located along the northeast wall, a room that contained two transformers was found. The transformers reportedly hold a total of 543 gallons of PCB oil (Attachment C, Photo 03). Areas of the southwest wall and the northeast part of the ceiling, roughly between pillars 50 and 58, were made of corrugated metal and were perforated. The entire wall along the northeast edge of the building, between pillars 50 and 52, was broken away. In additions, numerous windows, ceilings, and walls were broken through or perforated in this section of the Riverdale facility.

START found that the coiling section of Building 9 began at pillar DB-01, Mr. Holmberg stated that a series of basements or sumps that had been filled in with slag, are located where the coilers had been mounted. The coiling equipment was removed when the caster was put into use and Building 9 was closed.

Mr. Holmberg stated that he did not know if there were any mercury switches in Building 9. According to Mr. Holmberg, electricians working at the facility know that if any are found, Environmental Services must be contacted to remove the switches.

At pillars DB-9 and DB-10 along the northeast wall (Photo 07) of the building, a sump filled with thick oil and three drums was observed. Between pillars DB-29 and DB-30 along the northeast wall of Building 9, a room with 18 sets of flourescent lights fixed to the ceiling was observed. Due to the age of the facility, the lights potentially contain PCBs.

At the northwest end of Building 9, the former wastewater treatment apparatus and outfalls were inspected. There was a recycling room used to pump water from the river to be used as noncontact cooling water at the Hot Strip Mill. A clarifier was also present that was used to treat contact, or process, water that came from the Hot Strip Mill through the sand filter, which was formerly at this location (Photo 15). Mr. Holmberg stated that during the time the system was operating, treated wastewater was recycled and reused. Any overflow from this process, known as "blowdown," would go directly to the sanitary sewer under permitted discharge. This overflow, however, only occurred during very warm weather. Adjacent to the water treatment processing tanks, the south stormwater outfall at the river was found.. Oily residues were observed on the surface of the river at this location (Attachment C, Photos 13 and 14).

On the northeast side of Building 9A, transite sheeting was found lying on the ground near a cluster of five aboveground storage tanks (ASTs). Two of the ASTs (15,000 gallons each) were labeled "hydrochloric acid" (HCl); these ASTs did not appear to have been cleaned out (Attachment C Photo 17). One AST (5,000 gallons) was labeled "oil" and appeared empty. Another AST (15,000 gallons) was labeled "caustic (NaOH) 25%". The fifth AST (approximately 5,000-gallons) was labeled "caustic soda 25-85%".

Next to this cluster of ASTs a transformer labeled PCBs was observed(Attachment C, Photo 16). Nearby to this cluster, and tucked in close to Building 9, was a reportedly empty 5,000-gallon AST labeled "hydraulic fluid" (Attachment C, Photo 09).

Following the inspection of several of several other areas, START revisited Building 9. During the second inspection of Building 9 section "RS-67," a part of the facility that is still being used by Acme Packaging, a labeled radiation source was observed sitting on the floor. Mr. Holmberg stated that it was probably cesium, which is used as a thickness gauge. The Micro-R radiation meter did not detect radiation greater than twice the background level in the area near the radiation source.

START completed the inspection of Building 9 with a walkthrough of the sourthwest edge of the building. A labeled propane cylinder was observed leaning against the building near the northwest end and a cooling tower with transite plating on the outside of it was noted (Attachment C, Photo 22).

Following the inspection of Building 9, START continued the site inspection at Building 12, which housed the Rolling Mill. Upon entering the northwest end of Building 12, a 30-foot by 10-foot puddle of a reddish liquid was observed on the ground near some tanks of hydraulic oil (Attachment C, Photo 18). Beneath the pickle line was a sump filled with a reddish lube oil (Photo 19). The sump was apparently slowly filling with water, which was a reddish-gold color. At the southeast end of the pickle line more reddish lube oil pooled around a tank labeled "solvent for rust prevention" was noted.

START then entered Building 8 through Building 12. Areas of Building 8 were susceptible to rain due to a leaking roof. The basement in this building was filled with an oily water. At the time of the inspection Mr. Holmberg stated that the basement had been pumped out recently, but an accumulation of water remained. In addition to the leaking roof and flooded basement, a 5-gallon pail of "Velocite Oil No. 10, Mobil" was observed near the metal lathe. Numerous "Caution Asbestos" signs were also noted in this building and throughout the Riverdale facility.

Substation 7, which was along the northeast wall of Building 8,was inspected, and numerous transformers were discovered. One transformer was labeled as an Allis Chalmers product (Attachment C Photo 21); another was labeled as a General Electric product. A third transformer, which was apparently filled in 1968, was labeled "Texaco 55 Transformer Oil". None of the transformers, however, were labeled as containing PCBs. In addition to the transformers, 55-gallon drum of "emulsified degreaser" and a group of lead/acid batteries was located (Attachment C Photo 20) inside the substation.

START inspected Building 18 which contained an approximately 10,000-gallon AST in the northeast corner of the Building. This AST was labeled as rust-inhibiting "pickle oil." This AST was located in the northeast corner of the Building.

2.2 30 July 2002

OSC Collins, Mr. Keith Lesniak (U.S. EPA), and START members Meyer, Klemp and Paxton arrived onsite. Daily activities began by viewing a video Mr. Holmberg provided of iron and steel production and steel rolling at Acme Steel Company. After completion of the video, inspection of Building 19 of the Riverdale facility commenced.

During the inspection of Building 19, START located the Environmental Laboratory on the first floor. Mr. Holmberg stated that a lab-packing organization, Onyx, had been contracted to decommission the laboratories at the site. Items of note still remaining inside the laboratory were $ZnSO_4$, which was used in the galvanizing operations, partially empty chemical containers, mercury thermometers, asbestos insulation, and fluorescent light bulbs. The remainder of the first floor was a storage area that contained large quantities of polyethylene and polyester chips spread out over the floor. An area of the floor near pillar F-17 was stained with oil. In addition, Substation G, which housed two unmarked transformers, was located in Building 19.

On the second floor of Building 19, the Metallurgical Laboratory was found. START observed small quantities of various chemicals, such as HCl and waxes, within the lab. There was evidence of chemical spills on the benchtops (Attachment C, Photo 23). Fluorescent lights were also noted in the laboratories. A leak in the ceiling that had let in water was observed. In addition to the Metallurgical laboratory, the physical-chemical and photographic laboratories were also located on the second floor. A 4-liter jar of sulfuric acid (H_2SO_4), a bottle of photographic fixative, a separation flask filled with a bright blue crystallized solid, and other small quantities of chemicals were observed. Some windows and doors in this area were open to the outside.

Outside the laboratories on the second floor, START noted numerous areas of concern. The containment area along the northeast wall was filled with standing oil. There was a spill of a black, tar-like material on the floor near what appeared to be a strap-cutting machine. Large areas of the second floor, toward the southeast side, were covered in a light-colored powder and/or a thick yellow-white crystalline crust that may have been acid crystals (Attachment C, Photos 24 and 28). Furthermore, a spare, unmarked transformer was resting on a palette on the floor. Nearby, there was

a wooden box on the floor that had a precipitate surrounding it. A transformer was located at a door labeled 38D. At the southeast end of the second floor, there were three large tanks labeled "Zinc Sulfate". Mr. Holmberg climbed to the top of these tanks and reported seeing a light-colored, cracked sludge in one tank and a small amount of residue in another tank.

The third floor of Building 19 was also covered in the same light-colored powder and crust as observed on the second floor. The third floor housed galvanizing troughs containing an acid (reportedly H_2SO_4) residue (Attachment C, Photos 29, 31, and 32). Mr. Holmberg stated that the center trough has been shut down for 20 to 30 years. The trough along the northeast wall was in operation until last year. Near a large H_2SO_4 storage tank, a large doorway facing the river on the southeast side was broken open. In this area, asbestos insulation from overhead piping had cracked, disintegrated, and fallen to the floor. Additionally, at pillar 33C, tanks labeled "acid/caustic" were observed. A group of large regulators were noted against the southwest wall creating a potential source of mercury contamination.

During the inspection of Building 19's third floor, Substation G was observed. A fiberglass panel had been put in place to protect a transformer from the leaking ceiling (Attachment C, Photo 30). OSC Collins advised Mr. Holmberg to have the power turned off to all transformers in these buildings as portions of the building are open to the elements. The lack of protection from wind and rain could compromise the conditions of the transformers and contribute to a fire. In addition, firefighting would be difficult in these buildings because of the large amounts of acid crystals present. Furthermore, runoff from a firefighting effort at this site could create a hazard if the water were to run off into the Little Calumet River located less than 50 feet from these buildings.

Following the inspection of Building 19's third floor, START inspected the fourth floor. The same residues and galvanizing troughs found on the third floor were observed. In addition to the galvanizing troughs and residues, several other concerns were noted: corroded metal stairways; a large vat filled with rainwater that appeared to have dripped in from a vent; five large storage tanks of zinc sulfate (Attachment C, Photo 33 and 34); a full can of oil and gas in an office in the southeast corner of the floor; nesting pigeons; and unsecured access from the roof of the building.

Building 17, which was adjacent to Building 19, was inspected. Building 17 was found to be in similar condition to Building 29 as it housed galvanizing and plating operations. The first two floors of Building 17 housed five large storage tanks labeled "zinc sulfate" (Attachment C, Photo 37); several galvanizing troughs (Attachment C, Photos 35, 36, 38 and 39); galvanizing residues on the

floor; standing water on the first floor which included an area that formerly contained a molten lead bath (Attachment C, Photo 40); a flooded basement; and paint-baking furnaces. On 31 July 2002, START returned to Building 17 to take a sample of the residues and powder on the floor and test for pH. After adding approximately 10 milliliters (mL) of water to approximately 5 mL of sample, the resultant pH of the solution was 5.5 to 6.

On the first floor of Building 14, which directly connects directly to Building 17, the following items were noted: a tote full of ferric sulfate; a staging area for freon-containing materials such as air conditioning units; and a large lead and copper scrap pile. In addition, sunlight was visible through the brick walls of the second floor of Building 14 due to the unconsolidated condition of the walls. Bales of unused fiberglass insulation, signs cautioning that asbestos was present, and a lead/acid battery tipped over on the floor were also observed on the second floor. According to Mr. Holmberg, a large fuel storage tank located outside Building 14 is no longer in use.

Following the inspection of Building 14, START inspected Building 3, the boiler house. A thick coating of asbestos fibers was observed on most surfaces within the building. Mr. Holmberg stated that the boiler is currently not operating due to a summer shutdown at Acme Packaging. He also stated that the boiler will most likely not be restarted in the fall because Acme Packaging is planning to use only space heaters for the winter; thus running the entire boiler operation would not be necessary.

Building 62, located next to Building 3, was then inspected. Building 62, also known as Wean Plant, was used for neutralizing the waste-pickle liquor (wastewater from pickling and galvanizing operations). The Wean Plant housed a clarifier, which was located near several treatment tanks, adjacent to the river, (Attachment C, Photo 42). Treated water from this operation was sent to the sanitary sewer under permitted discharge. Outside Building 62 near the wastewater storage tank, a transformer was found (Attachment C, Photo 41). The ground surrounding the transformer was stained with what appeared to be oil. In addition, the treatment tanks and piping (lime slurry tank, reactor tank, and waste-pickle liquor tank) near the wastwater treatment clarifier appeared to have asbestos residues on them and on the ground near them.

Pumphouse 1, which used to supply water to the Wean Plant, was located near Building 62 at the shoreline. A light silver sheen was noted on a thin strip of water adjacent to the pump house. Two unlabeled transformers, staged on skids in the yard near the Pumphouse 1, were observed. Furthermore, START noted that the Riverdale facility could be easily accessed through Pumphouse

1 because unblocked stairs lead up from the river to the facility at this location.

After inspecting Pumphouse 1, Building 22 was inspected and found to have a cracked, eroded ceiling and live electricity. Standing water was noted on the floor. There was a transformer on a palette at the northwest end of the building.

START inspected Building 15 which used to operate as Hot Strip Mill No. 3. A piece of equipment located in Building 15 had operating instructions dated 1935. START conducted radiation screening near this equipment using the Micro-R meter. The Micro-R meter detected radiation levels that were nearly twice the background level near two metal roller brackets in the basic oxygen furnace (BOF) control room (Attachment C, Photo 44). START determined that the elevated readings were likely due to instrument drift and not a radiation source. In addition, START observed thick oil staining in an area near the control room where a wall had been destroyed. Numerous cases of casting powder were grouped nearby along with five small transformers labeled non-PCB. START also inspected the basement of Building 15, where a rack of lead/acid batteries was observed (Attachment C, Photo 43). Outside the building, piles of scrap drums and stains on the ground nearby were documented (Attachment C, Photos 45 and 46).

START continued the site inspection activities at Building 1, which was entered from the northeast end. There was a clearly marked storage area for a drum containing PCB oil that had been recovered from historic releases on site. Mr. Holmberg stated that they dispose of the oil in this drum once a year. Three dumpsters of spent PPE were located nearby, but the material was not stored in the dumpsters. OSC Collins advised Mr. Holmberg to store the spent PPE properly. Outside and to the north of Building 1, START noted a partially full drum laying on its side on a patch of stained earth.

START next inspected the Coffer Dam and Outfall #11. There was a skimmer at the dam that was not operating. The north corner of the surface containment located on the riverside edge of the dam contained an area of brown, oily mousse (Attachment C, Photo 47).

In the Hecket-operated section of the Riverdale facility, slag was processed and stored in a waste oil tank. The tank contained approximately 20 inches of oily water, and the ground surrounding the tank was stained.

START then inspected the outside of Building 32, Receiving. An old drum storage area containing a few empty totes and eight dry oil drums were observed. There was some dark staining on the ground near the fenceline. Mr. Holmberg stated these totes and drums would be removed the following day.

START next entered Building 35, which contained two drums of lube oil near the northeast end of the building. A labeled PCB transformer was also located in Building 35 on the northwest side.

Building 40 was found to contain one large, free-standing transformer labeled as non-PCB. The transformer stored on a palette.

Building 41, located across from Building 40, contained a PCB transformer. The basement of this building was flooded and four unmarked drums were found laying on a palette on the southeast side of the building. In addition, access to this building from the property was unrestricted as all doors appeared to be unlocked and many of the walls were non existent.

After inspecting Building 41, START then inspected the Billet Yard, located just outside of Building 39. START found standing, oily water in this area.

Ten totes labeled "Cosmolubric HF-122," a substance manufactured by Houghton, were found standing inside Building 42. Mr. Holmberg stated that this material was new and unused and was owned by Acme Steel Company. In addition to the 10 totes, START observed an unchained acetylene cylinder at the northeast end of the building. Near the acetylene cylinder, START found a waste oil tank that Mr. Holmberg claimed has been empty for quite some time.

2.3 31 July 2002

OSC Collins, Mr. Lesniak, and START members Meyer, Klemp, and Paxton met with Mr. Holmberg to perform a more in-depth inspection of the Hecket-operated area where slag was processed. Mr. Holmberg stated that the Hecket group assured him that they had emptied all tanks on site. START did not find any full tanks, but did find six unchained, unmarked cylinders in the area of the office trailer.

START inspected the inside of Building 71. A Cushman vehicle containing welding gas cylinders was parked within the building.

START moved on to the area near Building 49, or Pump House 20. An old clarifier for the melt shop which was located within this building, was found to contain waste dust/sludge from the electrostatic particulator (ESP) (a device that removes particulates from the air) in the melt shop (Attachment C, Photo 48). There was a very strong sulfur odor at this location. Nearby were large piles of pollution control material used for site clarifiers, the Coffer Dam, and BOF and ESP dust (Attachment C, Photo 49).

Building 53 was found to contain a large, inline tank of chlorine scavenger that was used in water treatment. This container was labeled and had a Material Safety Data Sheet (MSDS) displayed on it.

START then moved south of Building 53 to the area outside of Building 47. A diesel tank with secondary containment, was observed outside Building 47. The containment was filled with liquid of a odd, dark color. Nearby, the ground in the oil storage area was discolored (Attachment C, Photo 50). Upon inspection of the inside of Building 47, START discovered a liquid nitrogen tank at the northwest end of the building.

Across the railroad tracks was a pump house. The ground around the railroad tracks was visibly stained with oil. The pump house contained two waste oil tanks and one diesel tank of unknown quantities.

START then moved across from Building 47 to Building 46, the Melt Shop. START observed the following conditions withing the building; a thick layer of lime dust that was centralized on the third floor as well as throughout the building in smaller quantities; two or three PCB transformers located near the north end of the building; mercury switches in storage; and a wastewater treatment area that may contain water that has been made basic or acidic for treatment purposes. Mr. Holmberg stated that there were several X-ray units in the building that have been made electrically inoperable. Outside Building 46, was an unlabeled transformer and a tank of liquid nitrogen was noted.

The Caster Building was inspected next. The Caster Building began operating in 1996 and closed operations in the fall of 2001. Many new materials were still in storage inside the building. Mr. Holmberg stated that the Caster Building has not been decommissioned yet because it is currently for sale. Some items of concern inside the building include a total of approximately seven palettes of calcium carbide labeled "do not use water to control fire" (Attachment C, Photo 51), 14 palettes of carbon; CaSi and CaFe coiled wire; one palette of Positherm disposable thermocouples; a small

cabinet in the repair shop that contained lubes, grease, teflon, and enamel spray cans; and numerous new drums labeled "Spartan SD-20, flammable liquid, gear oil, all purpose cleaner." Stormwater retention ponds on the property outside the Caster Building showed no signs of stressed vegetation.

START conducted radiation monitoring inside the Caster Building using the Micro-R meter. The floor of the building registered a maximum reading greater than 4,000 uR (background had been approximately 30 uR) approximately 1 foot away from two mold-level gauges and 1 foot off the floor (Attachment C, Photo 52). These gauges were packaged in radiation-labeled containers. Mr. Holmberg informed START that Mr. Steve Anderson, Acme Steel Company's Radiation Safety Officer, would be contacted about this issue. All personnel moved away from the sources to areas where the radiation meter could not detect the source.

2.4 1 August 2002

OSC Collins, Mr. Lesniak, and START member Klemp met with Mr. Holmberg at the Acme Riverdale facility. Mr. Holmberg escorted START to the Acme Chicago Coke Plant to begin an inspection of that facility (Attachment A, Figure 3, Site Map and Features of Concern, Acme Steel Company, Chicago Coke Plant).

Remnant laboratory supplies, including HCl, were found in the Coal Laboratory inside the Main Office Building at the Coke Plant. Mr. Holmberg said this material will be packed away when the other laboratories at the Riverdale facility are repacked.

Following the inspection of the Coal Laboratory, START entered the main substation. Transformers that were labeled as non-PCB were noted. The labels indicated that the oil had been tested for PCBs, but no test date appeared on the label. In addition, two lead/acid batteries were found on the second floor of the substation.

START inspected the Powerhouse Building at the Coke Plant. Two waste oil tanks were found to the west of the building. East of the Powerhouse Building were 50 to 100 empty propane and oxygen cylinders (Attachment C, Photos 56, 57 and 58). Because the cylinders contained flammable materials and because these cylinders are being stored next to oxidizing materials, OSC Collins requested that the containers be separated and stored in different areas.

Building 9, the Maintenance Shop, was inspected. This building contained a diesel generator and propane tanks. Several 5-gallon pails of industrial paint were found in the northeast corner of the building (Attachment C, Photo 53). In the yard near the northwest corner of the maintenance building, an old transformer was observed Attachment C, (Photo 54). OSC Collins requested that Acme have the transformer oil and the soil near the transformer tested for PCBs.

A bermed impoundment, which was full of black material, was noted on the north side of the site, near the Coke Plant. Mr. Holmberg stated that, at one time, Acme Steel Company owned the nearby storage tank scaffolding that is located at the north end of the Coke Plant near the bermed inpoundment. Further, Mr. Holmberg indicated that Acme Steel Company may still own the property at the north end of the site.

An old underground storage tank (UST) was noted just north of the Old Oil House Building. The UST is still buried and has reportedly been closed in place in accordance with Illinois Environmental Protection Agency (IEPA) regulations.

START entered Building 18, the Coal Handling Office, and found asbestos wrapping on some service lines.
Six transformers labeled non-PCB were located south of the Locker Room Building. Nearby, the By-Products Building had three large, empty ammonium sulfate tanks and a sulfuric acid tank. There was a large sump area just south of these tanks that was collecting water and had a dark sludge at the bottom. A heavy naptha odor was noted around the entire central area of the site.

START noted several roll-off boxes filled with tank waste west of the White Castle Building. OSC Collins recommended that this material be shipped off-site for disposal.

Two small piles of sand from the sand filter and cyanide treatment were noted east of the Junction House. Mr. Holmberg stated that the piles would be tested and disposed of appropriately.

START inspected the fire-suppression system at the Coke Plant. Mr. Holmberg reported that the fire-suppression system is no longer charged with hydrogen as the system is no longer operational.

START moved on to inspect the inside of Building 4, the Light Oil Building, which is located on the east side of the Coke Plant. START noted numerous distilling boxes labeled "caution, contains benzene, cancer hazard."

OSC Collins and Mr. Holmberg then inspected eastern property line and found a hole in the perimeter fence. This hole allows for unrestricted access to the Coke Plant.

After completing the walkthrough of the Acme Steel Company Chicago Coke Plant, Mr. Holmberg lead the group to the Chicago Furnace Plant (Attachment A, Figure 4, Site Map and Features of Concern, Acme Steel Company, Chicago Furnace Plant). Several areas of concern were identified: friable asbestos was noticed on the ground outside at numerous places around the site perimeter (Attachment C, Photo 62); piles of sludge from the "blowdown" of the water treatment system were also located near the river (Attachment C, Photo 63) east of Furnace Plant A (Attachment C, Photo 61). In addition, numerous substations in the area of Furnace Plants A and B contained PCB transformers. A severed pipeline near the blast furnace loading area was leaking an oil/tar substance (Attachment C, Photo 66). Near the east wall of Building 18 there was an area of spilled oil. Furthermore, the Furnace Plant Maintenance Building contained the following areas of concern: large Air Cascade and SCBA systems in storage; lead/acid batteries in the basement (Attachment C, Photo 67); storage of flue dust from Furnace A; and a storage area west of the maintenance building that held hydrogen and nitrogen cylinders.

2.5 2 August 2002

Upon arriving at the Acme Riverdale facility, OSC Collins and START members Meyer and Klemp met with Mr. Holmberg and Mr. Cirullo (Harding ESE) to discuss the radiation source discovered in the Caster Plant earlier in the week. Mr. Cirullo reported that he monitored the area with a geiger counter earlier in the day and did not detect any elevated levels of radiation near the suspected source. Mr. Holmberg stated that the Caster Plant is still under daily monitoring and maintenance by Acme, and all radiation sources are inspected regularly. OSC Collins stated that if security and maintenance was to be discontinued at the Caster Plant, the suspected source should be inspected more carefully, and appropriate action should be taken.

Mr. Holmberg then escorted OSC Collins and START to the Acme Steel Company, Chicago Furnace Plant to complete the inspection that began on 1 August 2002. After checking in with site security, the team reported to the Receiving and Stores Building. This building contained welding supplies, maintenance equipment, and spare parts. Noted potential hazards inside and outside the building included: small amounts of spray lube and other maintenance fluids; a small bottle (250 mL) of a sulfuric acid drain cleaner; two short, SCBA-sized CO_2 cylinders (unchained, inside); and two racks of chained cylinders that stored compressed oxygen next to flammable gas (acetylene) outside the

building. OSC Collins recommended that the cylinders be segregated and stored properly.

The Pig Caster building was inspected next. Mr. Holmberg stated that process water from this facility once ran into a sedimentation basin outside the building and then to the sanitary sewer. In the Southeast corner of the building, START located a cabinet holding several gallon-sized containers filled with paint and coating material. In addition, START found scrap metal and palettes of cement littering the yard outside the building.

The South Outfall Basin (SOB) was also inspected. The SOB used to collect water from the Pig Caster Building but has not been in operation for many years. The SOB contained greenish water (Attachment C, Photo 68). Near the SOB were two fuel oil #6 tanks and a day tank for storing the same material that supported Blast Furnace A. All tanks are reportedly empty but likely contained sludge at the bottom.

The nearby paint shop contained approximately 10 paint cans with residue. Outside the paint shop were a few areas of gravel and soil that were discolored from spilled paint.

Another building in this area contained an apparatus supporting the Department of Energy coal/oil slurry project that was being used at the Blast Furnace Plant. The building still contained two or three tanks that were filled with a mixture of coal/oil/water.

At the Ore Dock Maintenance Shop, welding carts holding oxygen and propane (flammable gas) were observed. The Ore Dock Lube Shop contained residual oil and grease left from the period when the shop was operational.

A power rail that was once used to operate a crane was observed running close to the eastern edge of the facility. Mr. Holmberg stated that he did not know whether or not power was still being supplied to that rail. OSC Collins suggested that ACME should verify that power is no longer being supplied to that rail. START also found a 55-gallon drum of oil and a lead battery laying in the grass near the rail. Mr. Holmberg stated that he was aware of both items and that he had already taken steps to have the drum removed.

When the inspection was complete, the team returned to the Riverdale facility and met to summarize the events of the week and to identify known hazards on site that should be addressed.

3 Summary List of Major Concerns and Hazards On Site

A list of the major concerns observed in different areas of the Acme Steel Company facilities is presented in this section. These concerns may be important with respect to human health and the environment. Tables 3.1 through 3.3, located in Attachment B, identify specific environmental concerns at each of the three sites. Comments in Section 3.1, General Site Concerns, pertain to all three sites in general (Riverdale, Chicago Coke, and Chicago Furnace Plants), as the items listed were observed in numerous places throughout the facilities.

3.1 General Site Concerns

- Friable asbestos materials inside buildings and in surrounding soils
- Incompatible gases in cylinders stored together
- Uncontainerized lead/acid batteries
- Fluorescent lighting, potentially containing PCBs inside buildings;
- Storage containers that have not been completely emptied out;
- Waste oil and new oil both contained and uncontained
- Large amounts of dust and particulate material
- General industrial debris and contamination
- PCB transformers and PCB staining or seeping from transformers
- Labels with testing dates missing on all transformers
- Natural gas service still operational to unused buildings
- Broken windows, doors, and dilapidated buildings that allow access to building interiors
- Copious amounts of pigeon guano, which is a potential for pulmonary infection or histoplasmosis.

3.2 Concerns at the Riverdale Facility

- Location: Riverdale and Furnace Plants adjacent to Little Calumet River
- Dessicated acids in Buildings 17 and 19 that could be a problem for fire-fighting. Buildings 17 and 19 are in the worst shape, and may represent a potential fire hazard. Local fire-fighting and life-saving units should have knowledge of plant conditions and the fire damage potential
- Large amounts of powder, plating residues on floors in Buildings 17 and 19

- Building 19 - PCB transformers located inside and leaking ceiling on the second floor
- PCB transformer south of the Wean plant possibly leaking to the ground surface
- Asbestos on piping outside of ASTs south of the Wean Plant
- In Building 42, approximately 10 totes of unused material to be removed from site
- Large volume of Melt Shop dust (with a potentially high pH).

3.3 Concerns at Chicago Coke Plant

- Profile and dispose of cyanide sand from sand filter
- Hole in perimeter fence
- Impoundments containing sediment
- Naptha odor in and around buildings in center of facility
- Uncontainerized lead batteries at facility

3.4 Concerns at Chicago Furnace Plant

- Oil/tar leak observed at severed pipeline near blast furnace loading area
- Furnace Plant B structurally unsound
- Unknown state of power supply to crane power rail
- Blowdown sludge from water treatment operations

4 Potential Future Sampling Locations

During site walkthroughs, several locations were marked for possible future sampling. Those locations, noted in the daily investigation narratives above, are summarized below:

- Powder and plating residues, Buildings 19 and 17, multiple floors, Riverdale facility
- Motor containment filled with oil, Building 19, second floor, Riverdale facility
- Area near molten lead bath, Building 17, first floor, Riverdale facility
- Pickling material, Building 12, Riverdale facility
- Oil in unlabeled transformers, all facilities
- Sediments at outfalls, Riverdale facility
- Surface water/oil at outfalls, Riverdale facility

- Stained or discolored soils, particularly near transformers or in impounded areas, all facilities
- Pollution control piles, Riverdale facility
- Dust in melt shop, Riverdale facility
- Old clarifier with sulfur smell, Riverdale facility
- Asbestos in soil near Coal Handling Office, Chicago Coke Plant
- Piles of sand filter waste, Chicago Coke Plant

If you have any questions or require additional information about this site, please contact me at (847) 918-4000.

Very truly yours,
WESTON SOLUTIONS, INC

Tonya C. Balla
START Project Manager

Attachments: A. Figures 1through 4
B. Tables 3.1 through 3.3
C. Photo Log
D.Phase II Environmental Site Assessment (Weaver Boos & Gordon, 2 July 2001)

cc: Gail Nabasny - U.S. EPA
Sarah Meyer - WESTON
Project File - WESTON

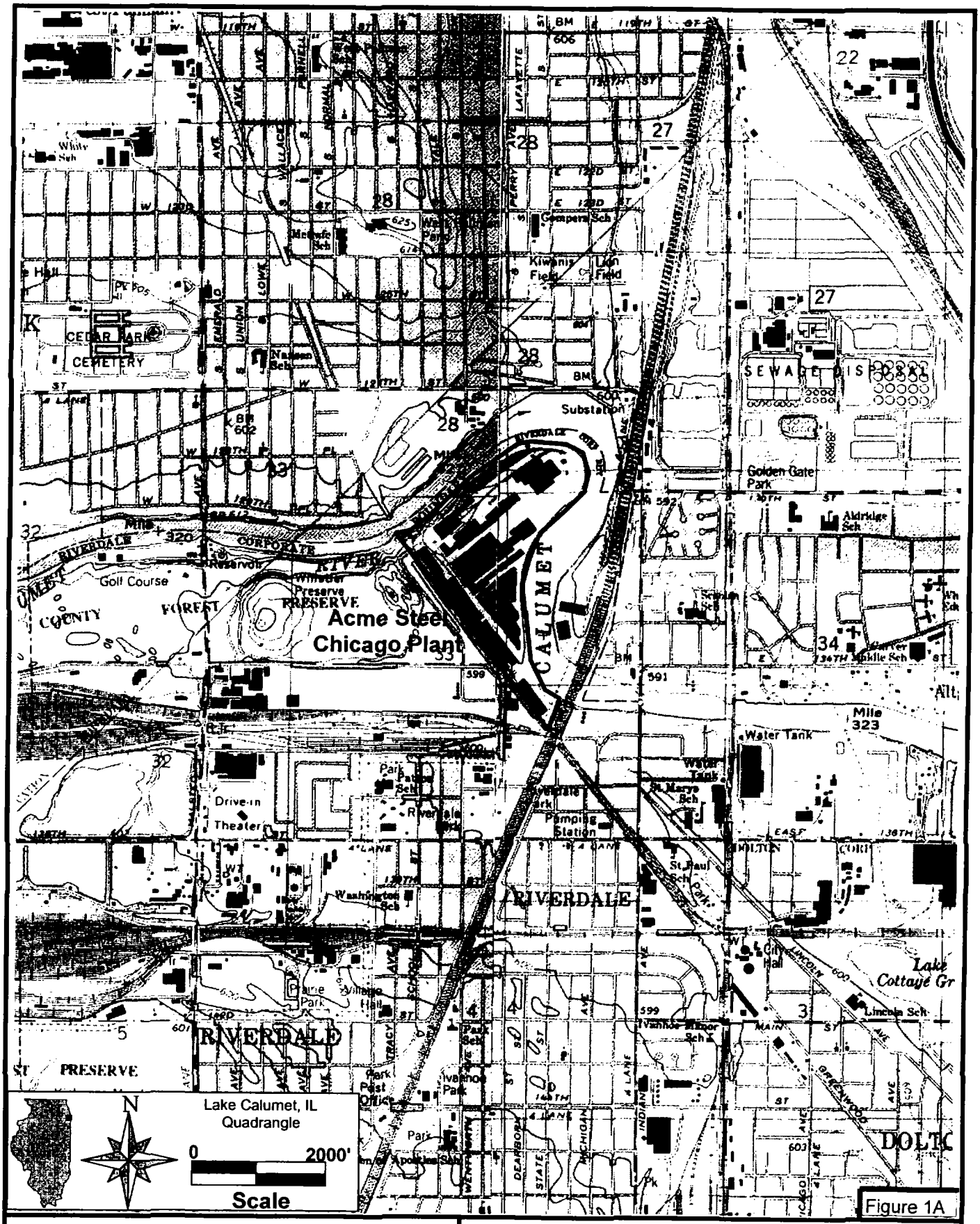

Figure 1A

WESTON®
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750 E. Bunker Ct.
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Vernon Hills, Illinois
60061

SITE LOCATION MAP

ACME STEEL COMPANY

Riverdale, Cook County, Illinois

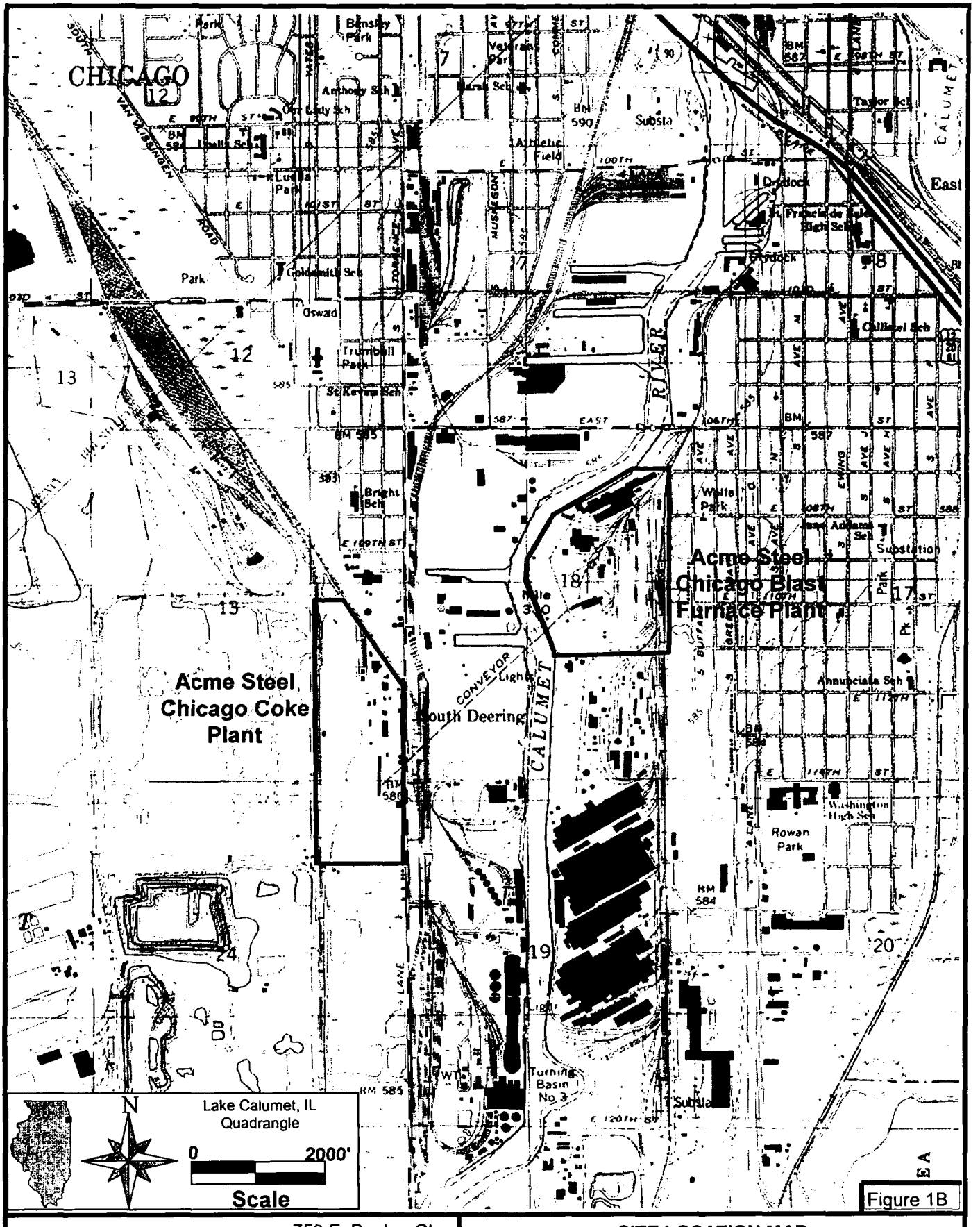

Figure 1B

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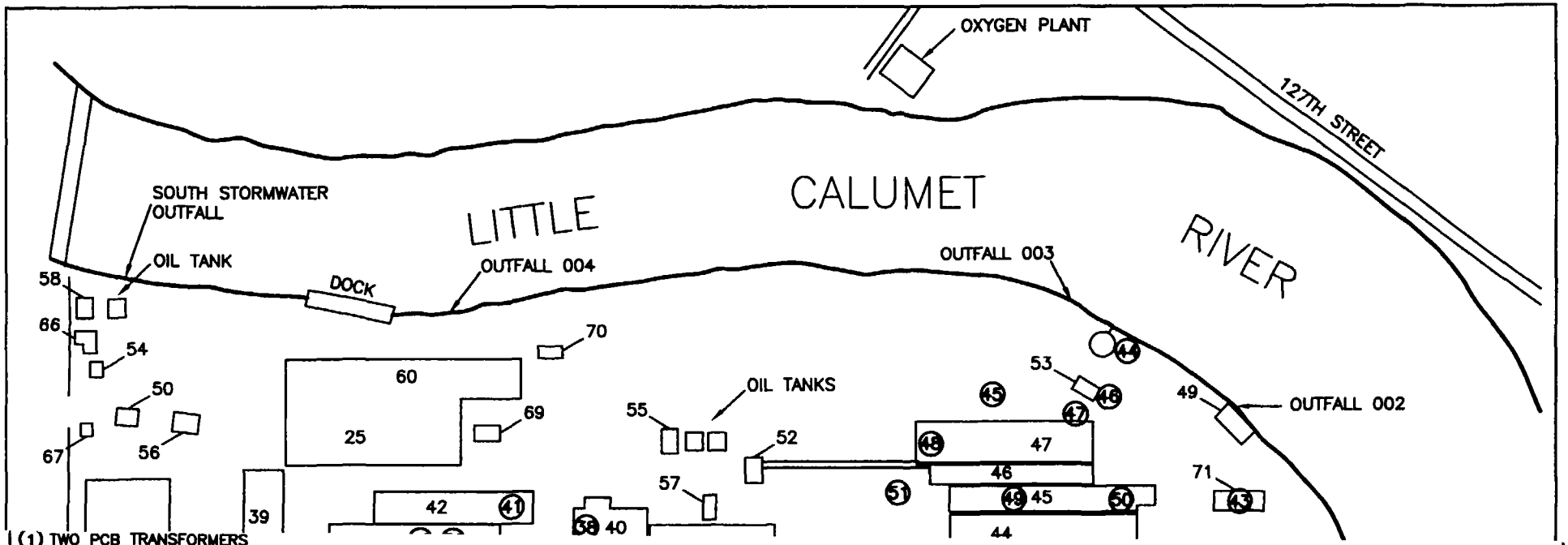
SITE LOCATION MAP
ACME STEEL COMPANY
Riverdale, Cook County, Illinois



1. TWO PCB TRANSFORMERS
2. OIL-FILLED SUMP
3. STORAGE TANK CLUSTER – ACID, CAUSTICS, OIL
4. PCB TRANSFORMER
5. PICKLE LINE SUMP AND AST, FILLED WITH OIL
6. PAIL OF VELOCITE OIL NO. 10
7. NUMEROUS TRANSFORMERS, UNKNOWN CONTENT
8. DRUM OF EMULSIFIED DEGREASER AND RACK OF LEAD/ACID BATTERIES
9. AST OF PICKLE OIL
10. UNCONTAINED PROPANE CYLINDER
11. COOLING TOWER WITH TRANSITE SHEETING
12. SMALL AMOUNTS OF LABORATORY CHEMICALS
13. SMALL AMOUNTS OF LABORATORY CHEMICALS
14. FLOORS 2-4: TWO OR MORE TRANSFORMERS, ZINC SULFATE, SULFURIC ACID AND OIL STORAGE, GALVANIZING RESIDUES, ASBESTOS, REGULATORS, CORRODED STAIRWAYS.
15. FORMER MOLTEN LEAD BATH
16. FLOORS 1 AND 2: ZINC SULFATE STORAGE, GALVANIZING RESIDUE
17. TOTE OF FERRIC SULFATE
18. FREON-CONTAINING ITEMS
19. LEAD AND COPPER STORAGE
20. LEAD/ACID BATTERY, SECOND FLOOR
21. LARGE AMOUNTS OF ASBESTOS FIBERS/DUST
22. TRANSFORMER NEAR STAINED SOIL
23. ASBESTOS FIBERS
24. SILVER SHEEN ON RIVER AT PUMPHOUSE
25. TWO UNLABELED TRANSFORMERS
26. TRANSFORMERS
27. THICK OIL STAINING
28. FIVE SMALL TRANSFORMERS
29. PCB OIL STORAGE
30. PPE STORAGE
31. DISCOLORED SOIL NEAR DRUMS
32. DISCOLORED SOIL NEAR DRUMS
33. OILY MOUSSE ON WATER AT COFFER DAM
34. AST OF OILY WATER
35. EIGHT DRUMS OF OIL-DRY
36. TWO DRUMS OF LUBE OIL
37. PCB TRANSFORMERS
38. NON-PCB TRANSFORMERS
39. PCB TRANSFORMER
40. FOUR UNMARKED DRUMS
41. TEN TOTES OF COSMOLUBRIC HF-122
42. SIX UNCHAINED, UNMARKED CYLINDERS
43. WELDING GAS CYLINDERS
44. HEAVY SULFUR ODOR, ESP WASTE
45. POLLUTION CONTROL PILES
46. AST OF CHLORINE SCAVENGER
47. CONTAINMENT FOR DIESEL TANK, FILLED WITH ODD-COLORED LIQUID
48. LIQUID NITROGEN TANK
49. LIME DUST
50. PCB TRANSFORMERS AND MERCURY SWITCHES
51. UNLABELED TRANSFORMER AND TANK OF LIQUID NITROGEN
52. BASEMENT, RACK OF LEAD/ACID BATTERIES

NOT TO SCALE

FIGURE 2

WESTON SOLUTIONS

750 E. Bunker Ct.
Suite 500
Vernon Hills, Illinois
60061

SITE MAP & FEATURES OF CONCERN
ACME STEEL COMPANY
RIVERDALE PLANT
Riverdale, Illinois

I:\CAD\95\00\95002.dwg

BUILDING LEGEND

NUMBER	DESCRIPTION
1	COLD MILL DIVISION – COLD MILL SUPERINTENDENT; BUTTWELDER; SLITTERS
2	STEEL – PLANTS MANAGER, IND. ENGINEERING, M&P DIVISION – SLITTERS; HEAT TREATING
3	MAINTENANCE DIVISION – BOILER HOUSE
4	IRON & STEEL – INSTRUMENT STORAGE
5	M & P DIVISION – RECLAIMED METAL STORAGE
7	COLD MILL DIVISION – MOTOR ROOM
8	COLD MILL DIVISION – COLD MILLS, SLITTERS & SHIPPING
9	HOT MILL DIVISION – NO. 4 HOT STRIP MILL, COLD MILL DIV. – BUTTWELDERS & ANNEALERS
9A	HOT MILL DIVISION – NO. 4 HOT STRIP MILL SLAB YARD
12	COLD MILL DIVISION – PICKLERS
14	M & P DIVISION – PAINTERS
15	HOT MILL DIVISION – NO. 3 HOT STRIP MILL
16	COLD MILL DIVISION – WAREHOUSE & SHIPPING
17	M & P DIVISION – PAINTERS & GALVANIZERS; QUALITY CONTROL LAB
18	IRON & STEEL DIVISION – SLITTERS
18A	IRON & STEEL DIVISION – LOADING & SHIPPING; CUT-TO-LENGTH MACHINES
19	IRON & STEEL DIVISION – M & P DIVISION – GENERAL PLANT OFFICES 1ST FLOOR – LUNCHROOM; SAFETY DEPT; MEDICAL DEPT; ENGINEERING 2ND FLOOR – METALLURGICAL DEPT; CHEMICAL LAB; STRAIGHTENERS 3RD FLOOR – ACCOUNTING & PRODUCTION; GALVANIZING 4TH FLOOR – PLANT ENGINEERING; RESEARCH; METALLURGY; QUALITY CONTROL
22	PLANT SERVICE DIVISION – SCRAP PRESS, PLANT TRUCKING
23	MAINTENANCE DIVISION – NO. 1 PUMP HOUSE
24ABC	M & P DIVISION – MANUFACTURING & SHIPPING
24D	PRIMARY ROLLING MILL DIVISION – NO. 52 COLD MILL
25	COLD MILL DIVISION – NO. 52 COLD MILL
27	YARDS AND SERVICES – EQUIPMENT STORAGE
28	EXECUTIVE OFFICES
29	MAINTENANCE DIVISION – WATER TREATING
30	MAINTENANCE DIVISION – SUB-STATION A
31	M & P DIVISION – BOX SHOP
32	STORES & RECEIVING DEPT.
33	VACANT
34	IRON & STEEL DIV – GENERAL OFFICES
35	PRIMARY ROLLING MILL DIV– SOAKING PITS
36	PRIMARY ROLLING MILL DIV – BLOOMING MILL
37	PRIMARY ROLLING MILL DIV – BILLET MILL
38	PRIMARY ROLLING MILL DIV – HOT SAWS
39	PRIMARY ROLLING MILL DIV – BILLET YARD
40	PRIMARY ROLLING MILL DIV – BLOOMING MILL MOTOR ROOM
41	PRIMARY ROLLING MILL DIV – BILLET MILL MOTOR ROOM
42	PRIMARY ROLLING MILL DIV – SCARFING & SLAB YARD
43	SP DIVISION – INGOT; TEEMING
44	SP DIVISION – HOT METAL HANDLING & LADLE REPAIR
45	SP DIVISION – B.O.F.=S
46	SP DIVISION – STORAGE BINS AND OFFICES
47	SP DIVISION – SCRAP STORAGE
48	MAINTENANCE DIVISION – MISCELLANEOUS STORAGE
49	MAINTENANCE DIVISION – NO. 2 PUMP HOUSE
50	PLANT PROTECTION DEPARTMENT – NO. 2 GATE HOUSE; TRUCK ENTRANCE
52	SP DIVISION – CAR SHAKER HOUSE
53	MAINTENANCE DIVISION – CLARIFIER
54	MAINTENANCE DIVISION – GAS METER HOUSE
55	MAINTENANCE DIVISION – OIL PUMP HOUSE
56	PLANT SERVICES DIVISION – TRUCK SCALE
57	METALLURGICAL DEPARTMENT – RAW MATERIAL SAMPLING
58	HOT MILL DIVISION – NO. 4 HOT STRIP MILL OIL HOUSE
59	SP DIVISION – STORAGE
60	MACHINE SHOP
61	SP DIVISION – STORAGE
62	WEAN PLANT NEUTRALIZER
66	SAND FILTER
67	PAY BOOTH
68	PLANT PROTECTION DEPARTMENT – NO. 1 GATE HOUSE; FIRE HOUSE
69	RAILROAD CAR REPAIR
70	PLANT SERVICES DIVISION – TRUCK SCALE & YARD OFFICE
71	HOT TOP STORAGE

FIGURE 2A

WESTON SOLUTIONS
750 E. Bunker Ct.
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Vernon Hills, Illinois
60061

BUILDING LIST
ACME STEEL COMPANY
RIVERDALE PLANT
Riverdale, Illinois

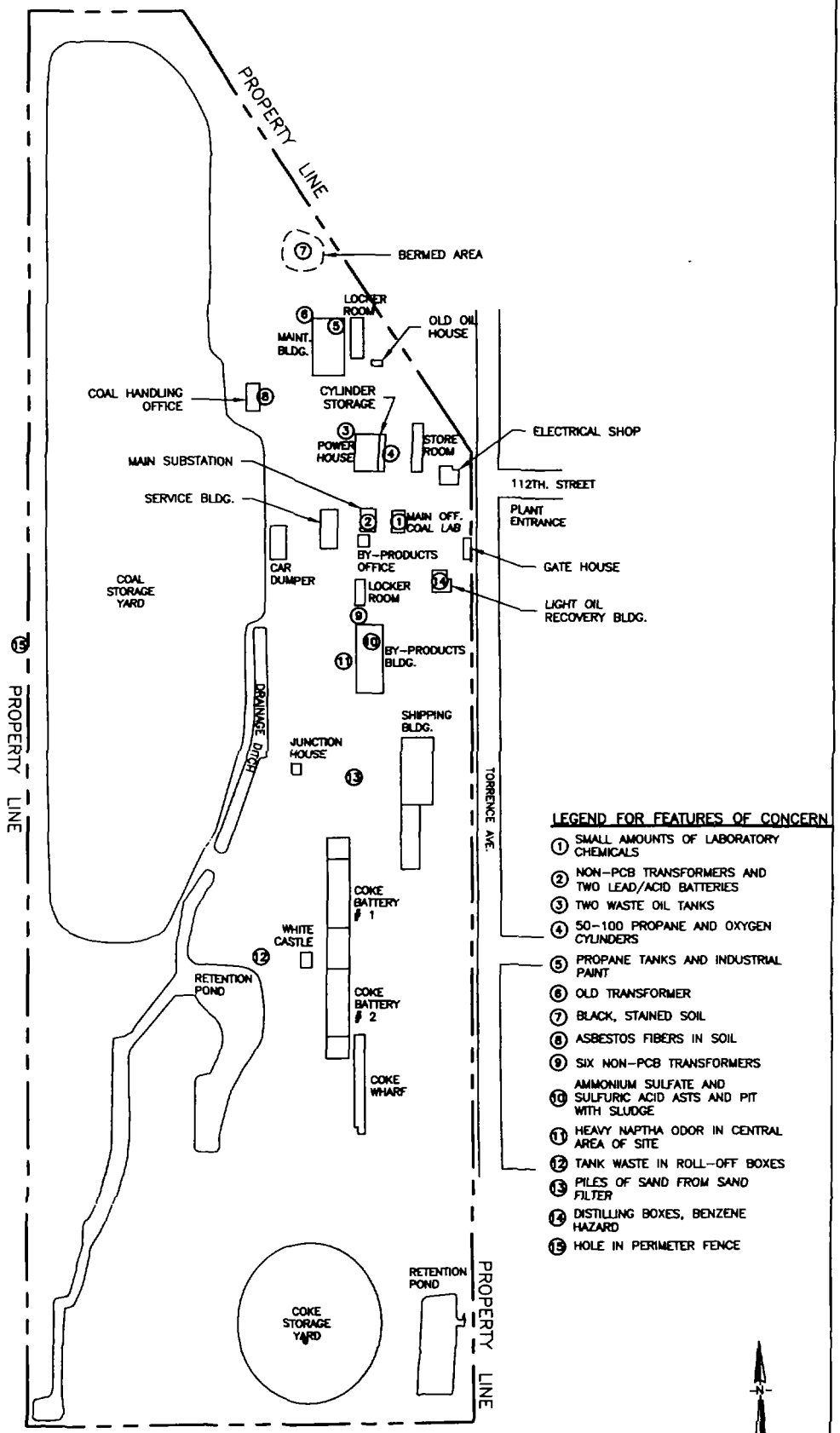
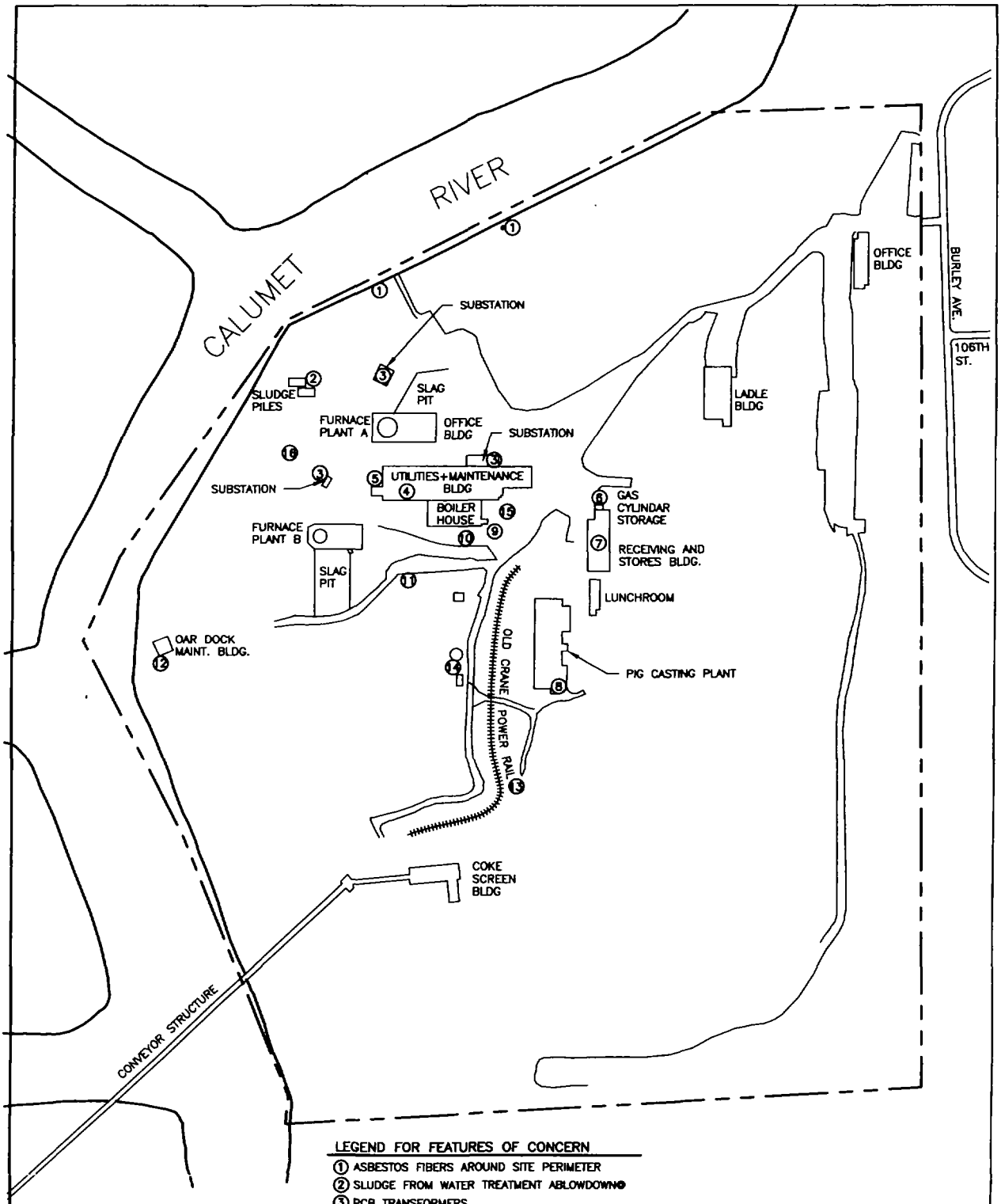


FIGURE 3

WESTON SOLUTIONS

750 E. Bunker Ct.
Suite 500
Vernon Hills, Illinois
60061

SITE MAP & FEATURES OF CONCERN
ACME STEEL COMPANY
CHICAGO COKE PLANT
Chicago, Illinois



LEGEND FOR FEATURES OF CONCERN

1. ASBESTOS FIBERS AROUND SITE PERIMETER
2. SLUDGE FROM WATER TREATMENT ABLOWDOWN
3. PCB TRANSFORMERS
4. SCBA SYSTEMS IN STORAGE, LEAD/ACID BATTERIES, FLUE DUST
5. CYLINDER STORAGE
6. OXYGEN AND ACETYLENE CYLINDER STORAGE
7. CARBON DIOXIDE CYLINDERS, SMALL AMOUNTS OF MAINTENANCE CHEMICALS
8. PAINT AND COATING MATERIALS
9. SOUTH OUTFALL BASIN, TWO FUEL OIL ASTS, ONE FUEL OIL DAY TANK
10. PAINT SHOP, PAINT RESIDUES AND CANS
11. TWO OR THREE ASTS OF COAL/OIL/WATER MIXTURE
12. OXYGEN AND PROPANE CYLINDERS, OIL AND GREASE RESIDUES
13. CRANE POWER RAIL
14. 55-GALLON DRUM, LEAD/ACID BATTERY
15. SOUTH OUTFALL BASIN FILLED WITH GREENISH LIQUID
16. SEVERED PIPE LEAKING OIL/TAR SUBSTANCE

N

0 250'
SCALE

FIGURE 4

WESTON SOLUTIONS
750 E. Bunker Ct.
Suite 500
Vernon Hills, Illinois
60061

SITE MAP & FEATURES OF CONCERN
ACME STEEL COMPANY
CHICAGO FURNACE PLANT
Chicago, Illinois

Table 3.1 - Summary of Specific Environmental Concerns
Acme Steel Company
Riverdale Facility - 29 through 31 July 2002

Building	Location	Concern	Comments
1	locked cage	PCB oil storage	used to contain collected material from releases
1	northeast wall	PPE storage	OSC Collins requested containerizing PPE better
1	outside, to the North	Discolored soil near drum	one drum, tipped over
3	entire building	Large amounts of asbestos fibers/dust	
7	substation	Numerous transformers, unknown content	Some transformers appear extremely old
7	substation	55-gallon drum of emulsified degreaser	
7	basement	rack of lead/acid batteries	
8	metal lathe	Pail of Velocite Oil No. 10	
9	Pillar DA15	Two PCB transformers	Contain a total of 543 gallons of PCB oil
9	Pillars DB9, DB10	Oil-filled sump and three drums	
9	Pillars DB29, DB30	18 sets of fluorescent lights	Lights in place overhead
9	RS-67	Radiation source	Being used by Acme Packaging
9	outside, SW wall	Uncontained propane cylinder	
9	outside, SW wall	Cooling tower with transite sheeting	
9A	outside, center NE	Two ASTs labeled acid, 15,000 gallons each	Contents unknown
9A	outside, center NE	One AST labeled oil, 5,000 gallons	Contents unknown
9A	outside, center NE	One AST labeled Caustic (NaOH) 25%, 15,000 gallons	Contents unknown
9A	outside, center NE	One AST labeled Caustic Soda (25-85%), 5,000 gallons	Contents unknown
9A	outside, center NE	PCB transformer	
9A	outside, center NE	One AST, labeled "hydraulic fluid," 5,000 gallons	
12	inside, NW corner	30 foot x 10 foot puddle of red fluid	
12	pickle line	Pickle line sump and AST, filled with oil	AST labeled "solvent, for rust prevention"
14	1st Floor	Tote of ferric sulfate	
14	1st Floor	Freon-containing items	
14	1st Floor	Lead and copper storage	
14	2nd Floor	Lead/acid battery	
14	outside	Large AST for fuel oil	Acme stated tank not used recently
15	near BOF control room	Thick oil staining	on ground near destroyed wall
15	storage area	Five small transformers	
15	basement	rack of lead/acid batteries	
15	outside, to the NW	Discolored soil near drums	unlabeled, partially filled drums, storage area
17	1st Floor	Former molten lead bath	
17	1st and 2nd Floor	five large storage tanks of $ZnSO_4$	
17	1st and 2nd Floor	galvanizing residues on floor and in troughs	
18	NE corner	AST of Pickle Oil, 10,00 gallons	
19	Environmental Lab	Small amounts of laboratory chemicals	$ZnSO_4$ and others
19	Environmental Lab	Mercury thermometers	
19	Environmental Lab	Fluorescent lighting	
19	Substation G	Two unlabeled transformers, leaking ceiling	OSC Collins requested testing of oil and shut down of power

Table 3.1 - Summary of Specific Environmental Concerns
Acme Steel Company
Riverdale Facility - 29 through 31 July 2002

Building	Location	Concern	Comments
19	Metallurgical Lab	Small amounts of laboratory chemicals	Benchtops stained with chemicals
19	Metallurgical Lab	Fluorescent lighting	
19	Physical-chemical Lab	H_2SO_4, separation flask of blue crystalline solid	
19	Photography Lab	photographic fixatives	
19	2nd Floor, NE wall	Containment around motor filled with oil	Possible future sampling location
19	2nd Floor	galvanizing residues on floor and in troughs	
19	2nd Floor	asbestos fibers	
19	2nd Floor	two unlabeled transformers, one behind Door 38D	
19	2nd Floor	$ZnSO_4$ storage tanks	
19	3rd Floor	galvanizing residues on floor and in troughs	
19	3rd Floor	asbestos fibers	
19	3rd Floor	H_2SO_4 storage tanks	
19	3rd Floor, Pillar 33C	storage tanks labeled "acid/caustic"	
19	3rd Floor, SW wall	group of large regulators	potential for mercury contamination
19	4th Floor	galvanizing residues on floor and in troughs	
19	4th Floor	corroded metal stairways	
19	4th Floor	five large storage tanks of $ZnSO_4$	
19	4th Floor	full can of oil and gas	
22	NW end of building	Unlabeled transformer	
23	river	Silver sheen on River at Pumphouse	
23	nearby in yard	Two unlabeled transformers	On skids on ground
32	outside	Eight drums of Oil-Dry	Acme stated would be removed as of 31 July 2002
35	NE end	Two drums of lube oil	
35	NW end	Labeled PCB transformer	
39	Billett Yard	Standing, oily water in large depression	
40	inside	Labeled Non-PCB transformer	On palette
41	inside	PCB transformer	
41	SE end	Four unmarked drums	On palette
42	northeast end	Ten totes of Cosmolubric HF-122	Acme states is it new oil and intend to sell
42	northeast courtyard	Unchained acetylene cylinder	
46	Everywhere	Lime dust	
46	NE end	PCB transformers and mercury switches	
46	outside, to the North	Unlabeled transformer	
46	outside, to the North	Tank of liquid nitrogen	
47	outside	Containment for diesel tank, filled with odd-colored liquid	Ground stained nearby
47	NW end	Liquid nitrogen tank	
53	inside	AST of chlorine scavenger	

Table 3.1 - Summary of Specific Environmental Concerns
Acme Steel Company
Riverdale Facility - 29 through 31 July 2002

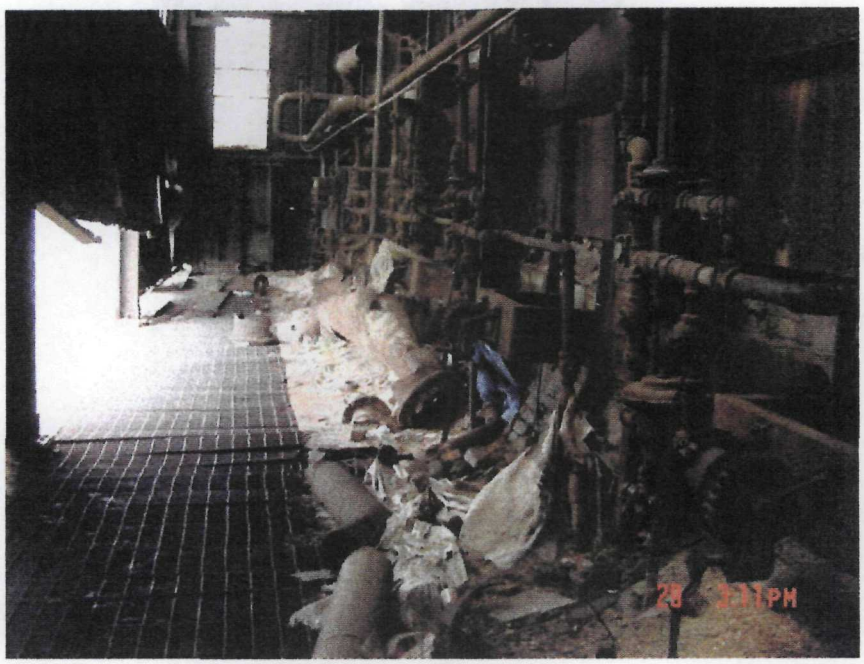
Building	Location	Concern	Comments
62	outside	Unlabeled transformer near stained soil	OSC Collins requested testing of oil and soil
62	outside	Asbestos fibers	On ground near ASTs at this location
71	inside	Welding gas cylinders	on Cushman cart
Caster	various, indoors	unused supplies on palettes, small amounts of maintenance chemicals	
Coffer Dam	water	Oily mousse on water at Coffer Dam	
Pumphouse 1	shoreline	Silver sheen on River at Pumphouse	Possible future sampling location
Pumphouse 1	shoreline	Unregulated access to facility from water	
Pumphouse 2	clarifier	Heavy sulfur odor, BOF/ESP waste	OSC Collins recommends testing of clarifier contents
Pumphouse 2	nearby	Pollution control piles	OSC collins recommends testing of piles
Slag Office	outside	AST of oily water, ground stained around it	Heckett operated property
Slag Office	outside, nearby	Six unchained, unmarked cylinders	
South Stormwater Outfall	shoreline	oils residues	Possible future sampling location, sediments

Table 3.2 - Summary of Specific Environmental Concerns
Acme Steel Company
Chicago Coke Plant - 1 August 2002

Building	Location	Concern	Comments
By-Products Bldg		Three large ammonium sulfate ASTs	
By-Products Bldg		Sulfuric acid AST	
By-Products Bldg	near ASTs	Sump of water and dark sludge	
Coal Handling Office	inside and outside	Asbestos fibers in soil	OSC Collins suggested the soil here as a future sampling location
Light Oil Building		Distilling boxes, benzene hazard	labeled
Main Office Bldg	Coal Laboratory	Small amounts of laboratory chemicals	Acme stated that items will be removed
Main Substation		Non-PCB transformers, labeled	No test date on label
Main Substation	second floor	Two lead/acid batteries	
Maintenance Shop		Propane tanks	
Maintenance Shop	northeast corner	Pails of industrail paint	
Center of Coke Plant	inside and outside	Heavy naptha odor in central area of site	
fenceline	outside, west property line	Hole in perimeter fence	
Yard	west of Powerhouse	Two waste oil tanks	
Yard	east of Powerhouse	50-100 propane and oxygen cylinders	OSC Collins requested that cylinders be segregated
Yard	northwest of Maintenance Shop	Old transformer	OSC Collins requested testing of oil and soil for PCBs
Yard	north	Black, stained soil	Bermed impoundment; OSC Collins suggested this as a future sampling location
Yard	south of Locker Room Bldg	Six non-PCB transformers	
Yard	west of White Castle Bldg	Tank waste in roll-off boxes	OSC Collins suggested that material be shipped off-site for disposal
Yard	east of Junction House	Piles of sand from sand filter	Acme stated that sand will be tested and disposed of properly

Table 3.3 - Summary of Specific Environmental Concerns
Acme Steel Company
Chicago Furnace Plant - 1 and 2 August 2002

Building	Location	Concern	Comments
Coal/Oil Slurry Project Bldg	south of South Outfall Basin	ASTs filled with coal/oil/water mixture	
Lube Shop	Oar Dock	Oil and grease residues	
Maintenance Bldg		SCBA systems in storage	
Maintenance Bldg		Lead/acid batteries	
Maintenance Bldg		Flue dust from Furnace A	
Maintenance Shop	Oar Dock	Oxygen and propane cylinders	
Paint Shop	south of South Outfall Basin	Containers of paint and paint residues on ground outside	
Pig Caster Bldg	southeast corner	Paint and coating materials	In gallon-sized containers
Receiving and Stores Bldg		SCBA-sized carbon dioxide cylinders	
Receiving and Stores Bldg		Small amounts of maintenance chemicals	
South Outfall Basin		Filled with greenish liquid	
Substations	at Furnace A and B complexes	PCB transformers	
Yard	northwest site perimeter	Asbestos fibers ground around site perimeter	
Yard	east of Furnace Plant A	Sludge from water treatment "blowdown"	OSC Collins suggested sludge be sampled in the future
Yard	Furnace loading area	severed pipe, leaking oil/tar substance	unknown source
Yard	west of Maintenance Bldg	Cylinder storage, hydrogen and nitrogen	
Yard	outside Receiving and Stores Bldg	Oxygen and acetylene cylinder storage	OSC Collins recommended cylinders be segregated and stored properly
Yard	near South Outfall Basin	Two fuel oil ASTs	contents unknown
Yard	near South Outfall Basin	Fuel oil day tank	contents unknown
Yard	east side of site	Crane power rail	OSC Collins recommended that power disconnection to rail be verified
Yard	east side of site	55-gallon drum	Acme stated that this would be removed
Yard	east side of site	Lead/acid battery	Acme stated that this would be removed



SITE: Acme Steel, Riverdale Facility DATE: 29 July 2002

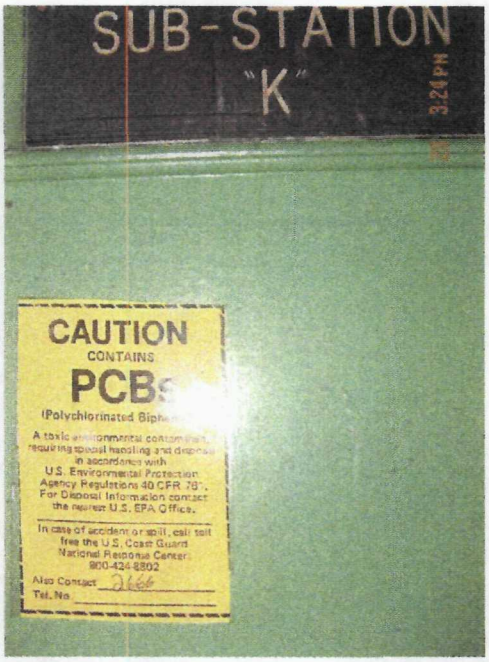
PHOTO NO: 01 DIRECTION: NW SUBJECT: **Southeast end of Building 9, entryway.**

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility DATE: 29 July 2002

PHOTO NO: 02 DIRECTION: NW SUBJECT: Interior of Building 9, southeast end, annealing operations.

PHOTOGRAPHER: START - D. Paxton



SITE: Acme Steel, Riverdale Facility

DATE: 29 July 2002

PHOTO NO: 03

DIRECTION: S

SUBJECT: **Substation K, Transformer PCB warning in Building 9.**

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 29 July 2002

PHOTO NO: 04

DIRECTION: W

SUBJECT: Grease drums along southwest wall (pillar DA31 to right is not shown) in Building 9.

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility DATE: 29 July 2002

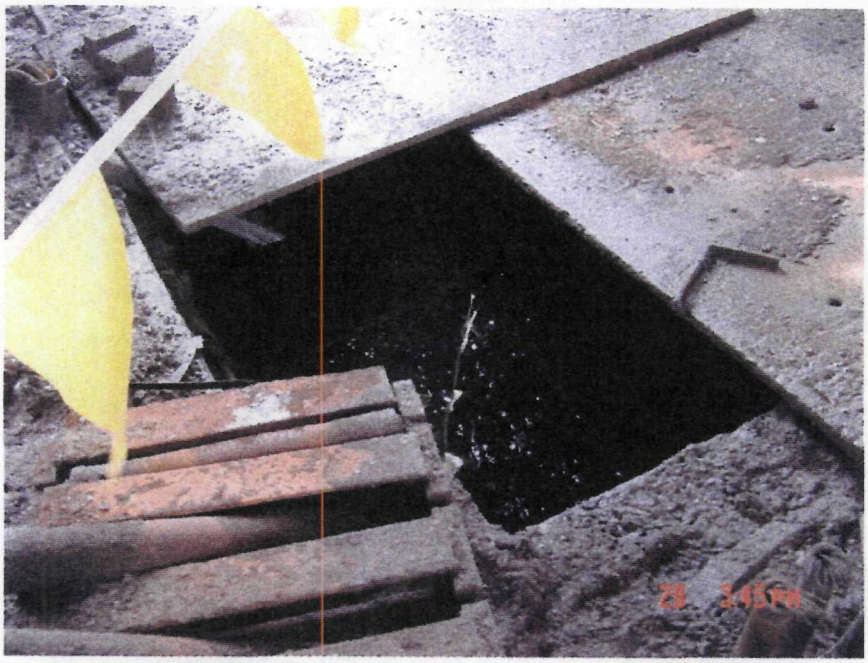
PHOTO NO: 05 DIRECTION: S SUBJECT: **Waste batteries between railroad tracks and south wall in central portion of Building 9.**

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility DATE: 29 July 2002

PHOTO NO: 06 DIRECTION: NW SUBJECT: Steel coil racks in Building 9.

PHOTOGRAPHER: START - D. Paxton



SITE: Acme Steel, Riverdale Facility

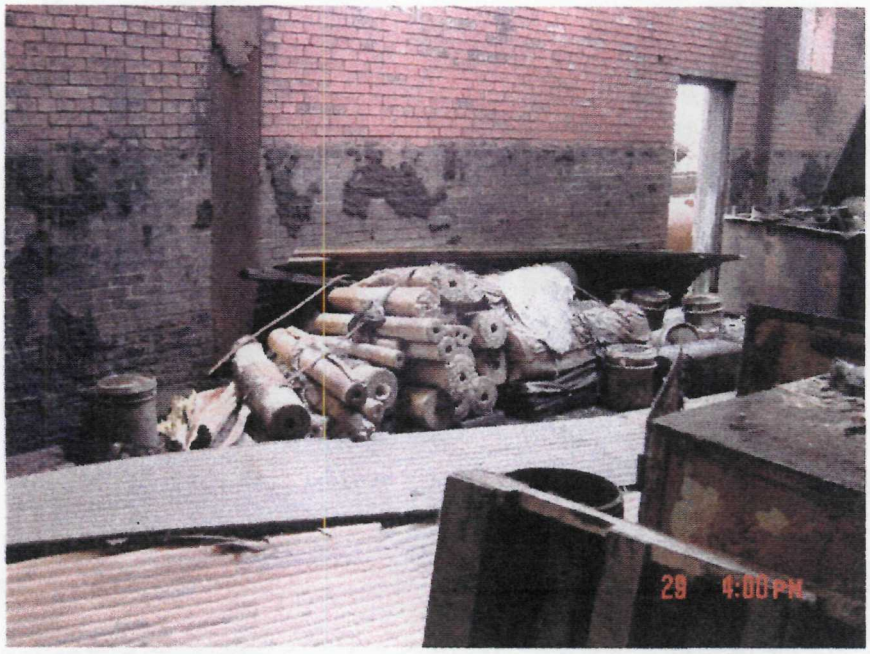
DATE: 29 July 2002

PHOTO NO: 07

DIRECTION: down

SUBJECT: **Pit containing oil in floor of old manufacturing area in Building 9 (No VOC readings observe with PID).**

PHOTOGRAPHER: START - D. Paxton



SITE: Acme Steel, Riverdale Facility

DATE: 29 July 2002

PHOTO NO: 08

DIRECTION: E

SUBJECT: Pillar Rolls of suspect asbestos insulation in a northeast room in Building 9

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 29 July 2002

PHOTO NO: 09 DIRECTION: NE

SUBJECT: **Approx. 5,000-gallon, empty, hydraulic fluid AST along northeast exterior wall of Building 9.**

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 29 July 2002

PHOTO NO: 10

SUBJECT: Two empty, 55-gallon drums that formerly contained kerosene, labeled K-1, north of Building 9.

PHOTOGRAPHER: START - D. Paxton

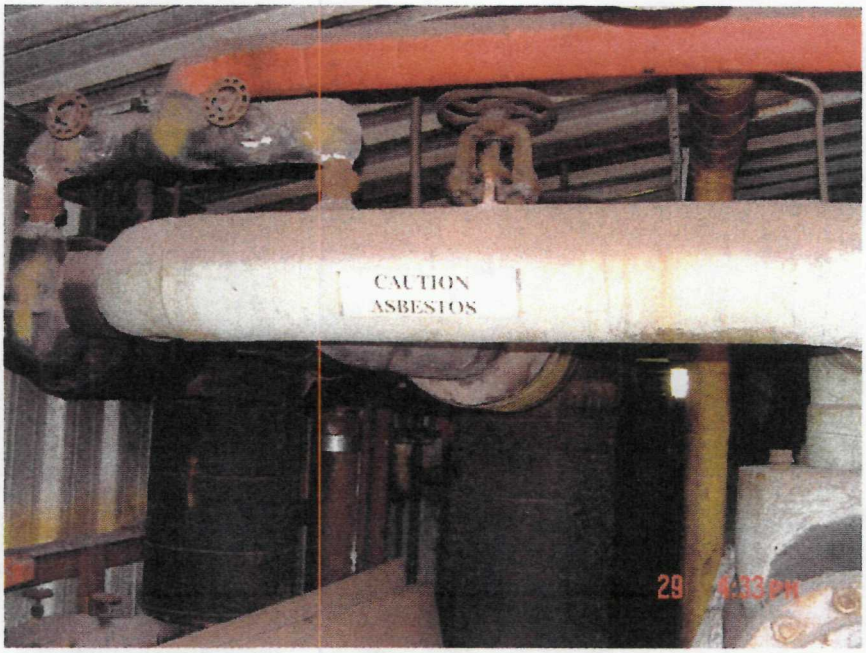
SITE: Acme Steel, Riverdale Facility

DATE: 29 July 2002

PHOTO NO: 11 DIRECTION: NW

SUBJECT: **Approx. 30,000-gallon, fuel oil AST west of Building 9.**

PHOTOGRAPHER: START - D. Paxton



SITE: Acme Steel, Riverdale Facility

DATE: 29 July 2002

PHOTO NO: 12

SUBJECT: Asbestos insulated pipeline in Building 9.

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

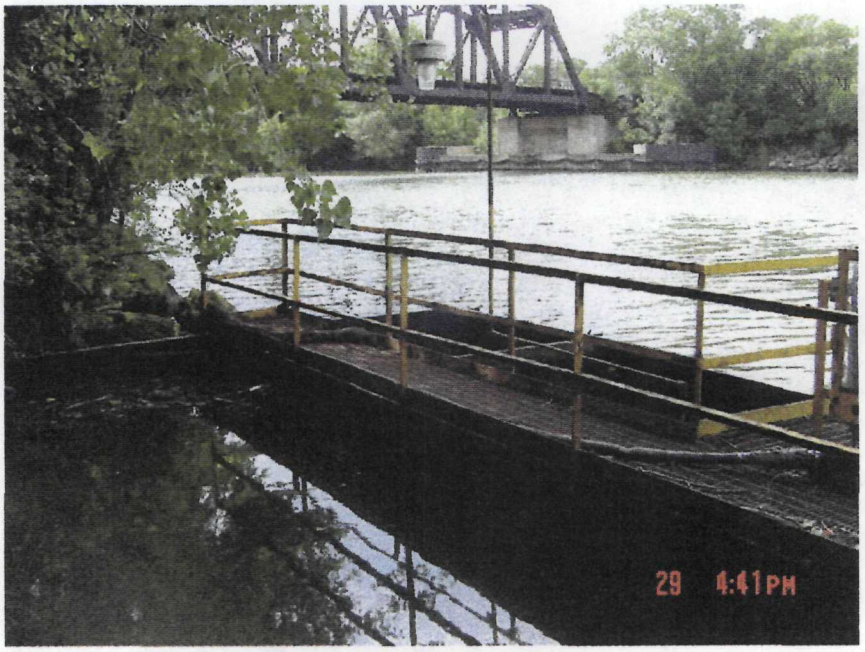
DATE: 29 July 2002

PHOTO NO: 13

DIRECTION: SE

SUBJECT: **South stormwater outfall as seen from walk way above containment area.**

PHOTOGRAPHER: START - D. Paxton



SITE: Acme Steel, Riverdale Facility

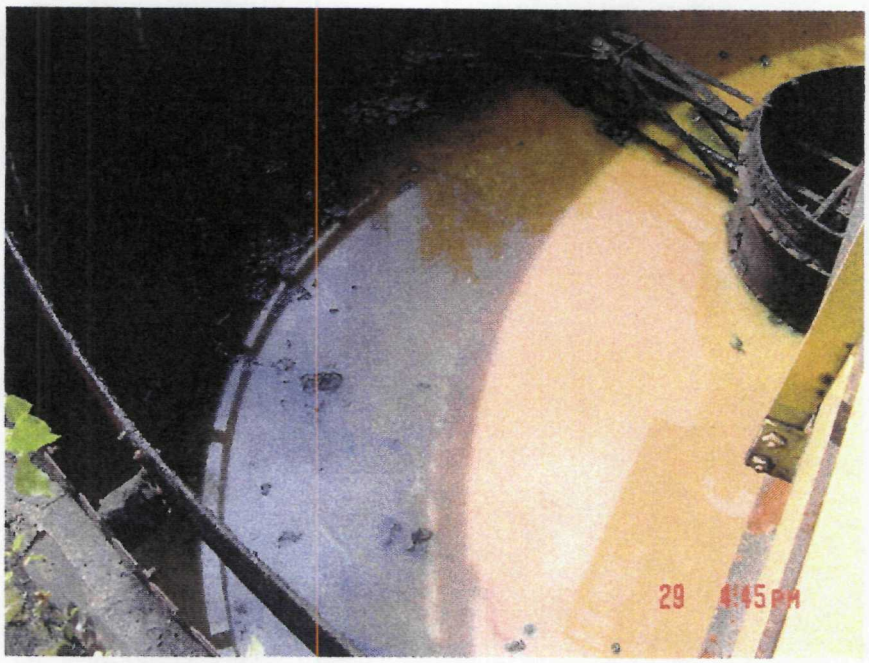
DATE: 29 July 2002

PHOTO NO: 14

DIRECTION: W

SUBJECT: South stormwater outfall and containment area with railroad bridge in background

PHOTOGRAPHER: START - D. Paxton



SITE: Acme Steel, Riverdale Facility

DATE: 29 July 2002

PHOTO NO: 15 DIRECTION: down

SUBJECT: **View from above of contents of sand-filter clarifier, sheen observed on turbid, emulsified water.**

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 29 July 2002

PHOTO NO: 16 DIRECTION: NW

SUBJECT: PCB transformer behind (NE of) building 9A.

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 29 July 2002

PHOTO NO: 17 DIRECTION: S

SUBJECT: **Three hydrochloric acid ASTs on northeast side of Building 9A.**

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 29 July 2002

PHOTO NO: 18 DIRECTION: W

SUBJECT: Red-colored material on floor at the northwest end of Building 12.

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 29 July 2002

PHOTO NO: 19

DIRECTION: down

SUBJECT: **Pickle line sump presently containing rainwater and pickling fluids; Building 12.**

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

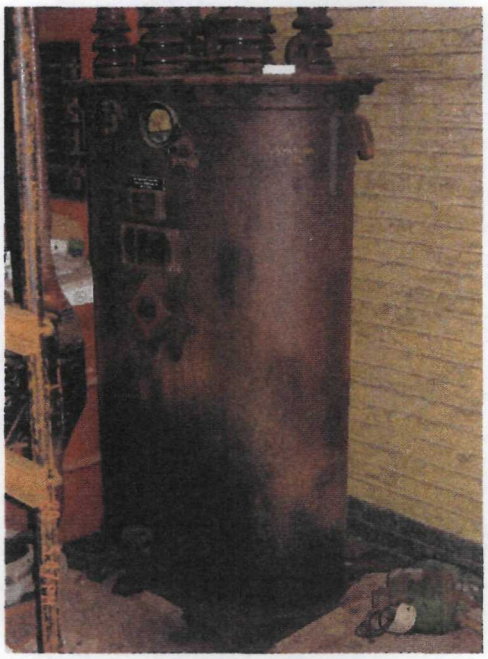
DATE: 29 July 2002

PHOTO NO: 20

DIRECTION: down

SUBJECT: Lead-acid batteries located in Building 7.

PHOTOGRAPHER: START - D. Paxton



SITE: Acme Steel, Riverdale Facility DATE: 29 July 2002

PHOTO NO: 21 DIRECTION:

SUBJECT: **Allis-Chalmers transformer, dated 1968, located in Building 7.**

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility DATE: 29 July 2002

PHOTO NO: 22 DIRECTION: E

SUBJECT: Cooling towers containing transite material located on northwest side of building 9.

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 23 DIRECTION: down

SUBJECT: **Small quatities of laboratory chemicals located in a storage cabinet in Building 19 metals lab, 2nd floor**

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 24 DIRECTION: down

SUBJECT: Acid salts on floor surrounding process equipment in Building 19, 2nd floor

PHOTOGRAPHER: START - D. Paxton

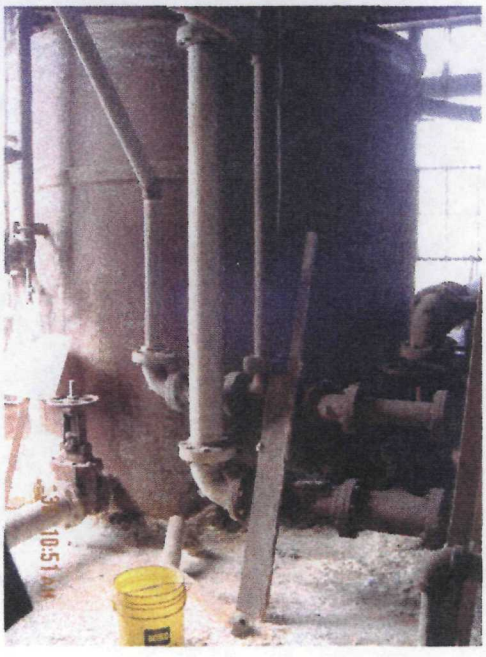
SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 25

SUBJECT: **Deteriorating concrete-block wall in Building 19, 2nd floor.**

PHOTOGRAPHER: START - D. Paxton



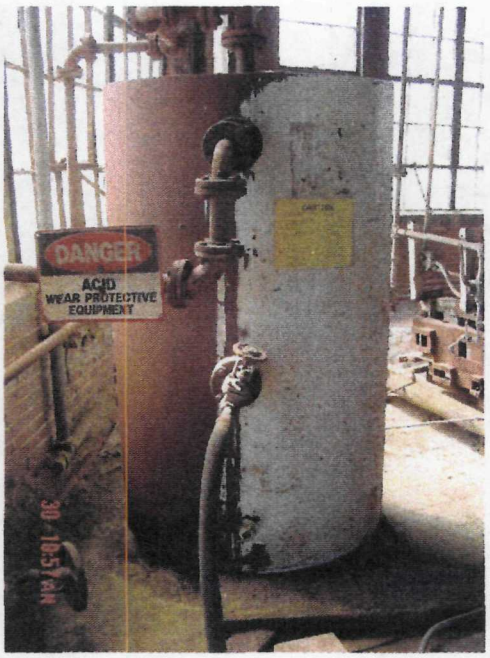
SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

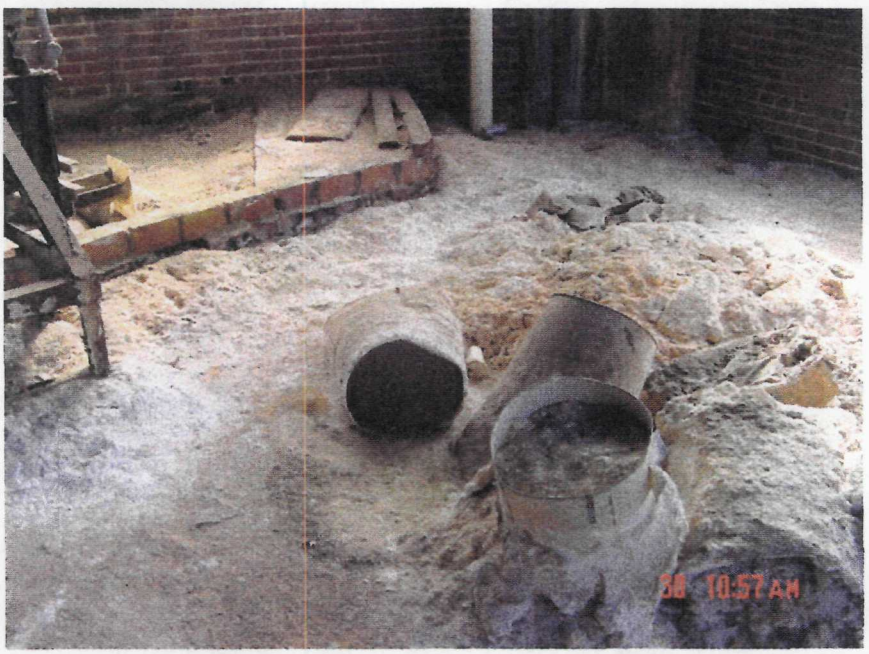
PHOTO NO: 26

SUBJECT: Possible acid tank on east end of Building 19, 2nd floor

PHOTOGRAPHER: START - D. Paxton



SITE: Acme Steel, Riverdale Facility **DATE: 30 July 2002 PHOTO NO: 27** **DIRECTION: SE**
SUBJECT: Sulfuric acid tank in southeast end of Building 19, 2nd floor.
PHOTOGRAPHER: START - D. Paxton



SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 28 DIRECTION: down

SUBJECT: Acid salts on floor near sulfuric acid tank at southeast end of Building 19, 2nd floor.

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility DATE: 30 July 2002

PHOTO NO: 29 DIRECTION: NE SUBJECT: **Galvanizing trough in Building 19, 3rd floor.**

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility DATE: 30 July 2002

PHOTO NO: 30 DIRECTION: up SUBJECT: Corrugated fiberglass panel is used to protect transformer from leak in roof in substation G in Building 19, 3rd floor.

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 31 DIRECTION: NE

SUBJECT: **Filling pipe with acid salts above electroplating vat in Building 19, 3rd floor.**

PHOTOGRAPHER: START - D. Paxton

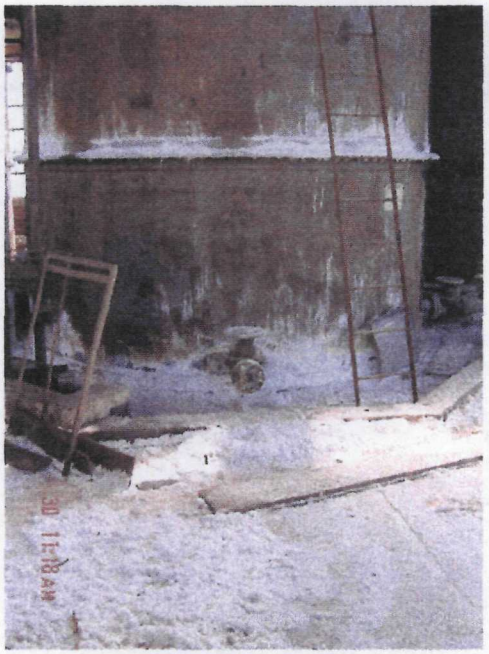
SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 32 DIRECTION: down

SUBJECT: Liquid in electroplating trough in Building 19, 3rd floor.

PHOTOGRAPHER: START - D. Paxton



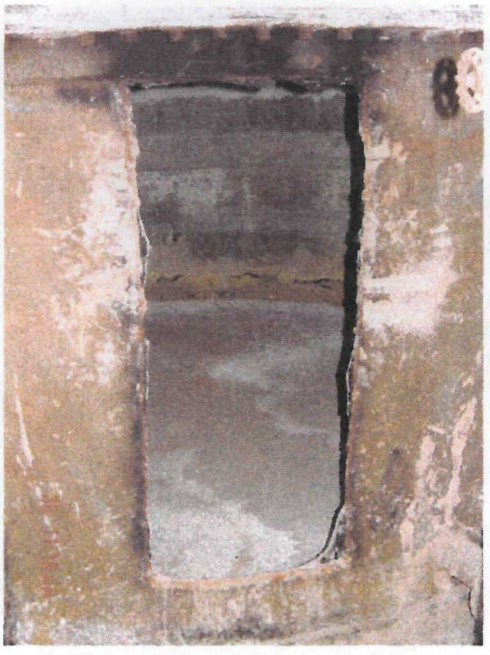
SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 33

SUBJECT: **Tank surrounded with zinc sulfate salts on floor in Building 19, 4th floor.**

PHOTOGRAPHER: START - D. Paxton



SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 34

SUBJECT: Zinc Sulfate inside tank in photo 33 as seen through cut out, next to pillar 37D Building 19, 4th floor.

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 35

SUBJECT: **Copper power lines for electroplating vats in Building 17, 3rd floor.**

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 36

SUBJECT: Tank near C32 pillar, Building 17, 2nd floor.

PHOTOGRAPHER: START - D. Paxton

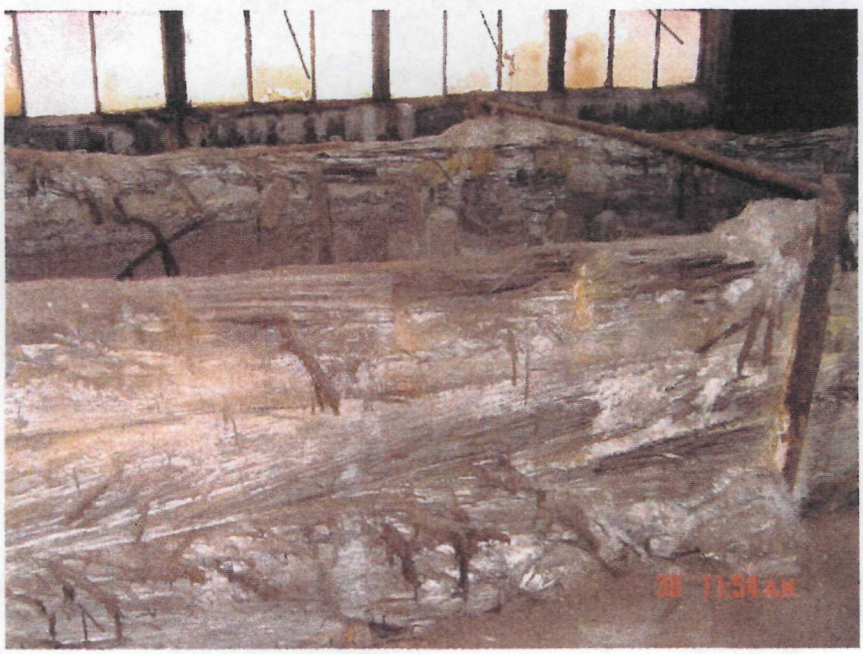
SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 37

SUBJECT: **Pipe with zinc sulfate in Building 17, 2nd floor.**

PHOTOGRAPHER: START - D. Paxton



SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 38

SUBJECT: Wooden plating vat, Building 17, 2nd floor.

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 39

SUBJECT: **Wooden plating vat, view of full line, Building 17, 2nd floor.**

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 40

SUBJECT: Lead pot and smelting area, Building 17, 1st floor.

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility DATE: 30 July 2002

PHOTO NO: 41 SUBJECT: **Transformer located outside buildings 62 and 2.**

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility DATE: 30 July 2002

PHOTO NO: 42 DIRECTION: E SUBJECT: Clarifier near boiler house, adjacent to the Little Calumet River.

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 43

SUBJECT: **Batteries located in the basement of Building 15.**

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 44 DIRECTION:down

SUBJECT: Roller brackets that appeared to be emitting radiation above background readings , Building 15.

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 45

SUBJECT: **55-gallon drums in scarp pile north of Building 15, soil staining is apparent**

PHOTOGRAPHER: START - D. Paxton

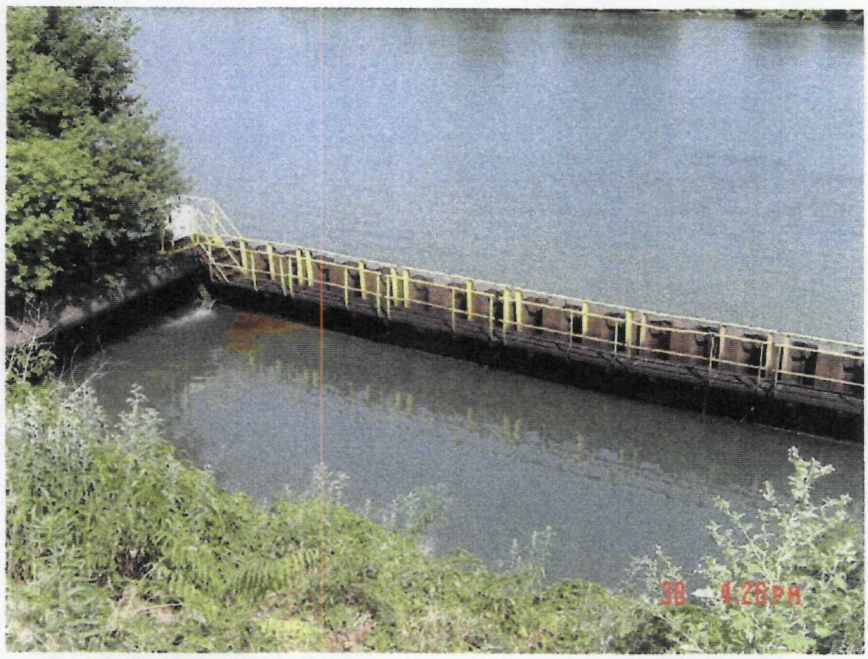
SITE: Acme Steel, Riverdale Facility

DATE: 30 July 2002

PHOTO NO: 46

SUBJECT: Waste oil collection pit for recycling drums under plywood cover, west of Building 15.

PHOTOGRAPHER: START - D. Paxton



SITE: Acme Steel, Riverdale Facility

DATE: 31 July 2002

PHOTO NO: 47 DIRECTION: E

SUBJECT: **Coffer dam at river edge, oil is visible in left corner of the dam.**

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 31 July 2002

PHOTO NO: 48 DIRECTION: N

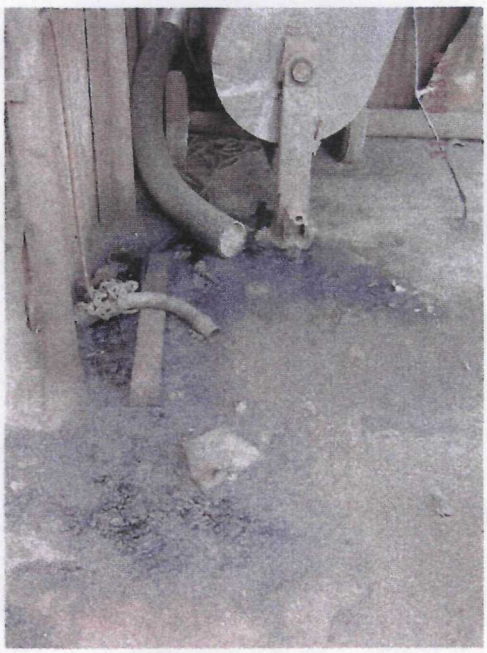
SUBJECT: Approx. 425,000-gallon old melt shop clarifier filled with ESP dust, strong sulfur odor observed.

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility DATE: 31 July 2002

PHOTO NO: 49 DIRECTION: NW SUBJECT: **Piles of FSP dust, residuals, and railroad west of melt plant.**

PHOTOGRAPHER: START - D. Paxton



SITE: Acme Steel, Riverdale Facility DATE: 31 July 2002

PHOTO NO: 50 DIRECTION: down SUBJECT: Oil on the ground at the north end of Building 47.

PHOTOGRAPHER: START - D. Paxton

SITE: Acme Steel, Riverdale Facility

DATE: 31 July 2002

PHOTO NO: 51

SUBJECT: **Pallets of calcium carbide in B.O.F Furnace (Caster Plant).**

PHOTOGRAPHER: START - D. Paxton

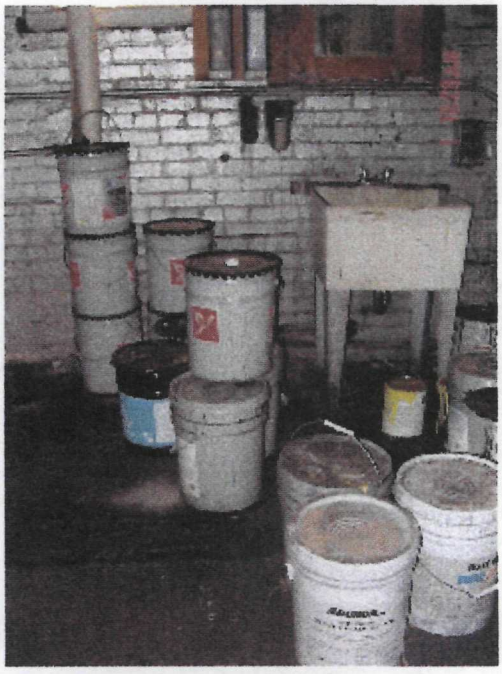
SITE: Acme Steel, Riverdale Facility

DATE: 31 July 2002

PHOTO NO: 52

SUBJECT: Radioactive material containers that were leaking raiation at close range several times above background, C aster Plant.

PHOTOGRAPHER: START - D. Paxton



SITE: Acme Steel, Chicago Coke Plant DATE: 1 August 2002

PHOTO NO: 53 SUBJECT: Industrial paint storage, Maintenance Shop.

PHOTOGRAPHER: START - J. Klemp

SITE: Acme Steel, Chicago Coke Plant DATE: 1 August 2002

PHOTO NO: 54 DIRECTION: W SUBJECT: Old transformer near northwest corner of Maintenance Shop.

PHOTOGRAPHER: START - J. Klemp

SITE: Acme Steel, Chicago Coke Plant

DATE: 1 August 2002

PHOTO NO: 55 DIRECTION: down

SUBJECT: Dark stained soil in impoundment on north side of Coke Plant.

PHOTOGRAPHER: START - J. Klemp

SITE: Acme Steel, Riverdale Facility

DATE: 1 August 2002

PHOTO NO: 56 DIRECTION: W

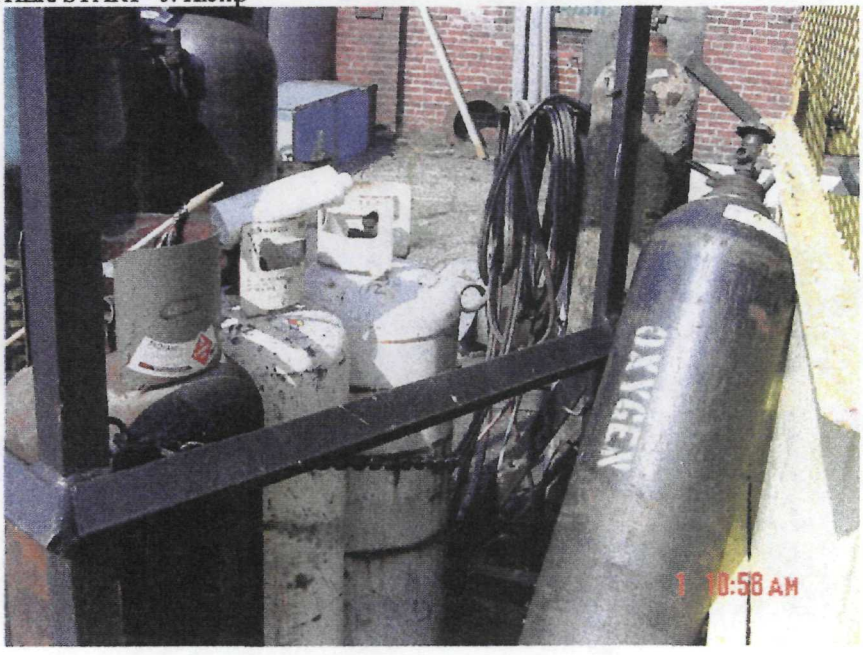
SUBJECT: Reportedly empty propane and oxygen tanks in storage together at east side of Powerhouse.

PHOTOGRAPHER: START - J. Klemp

SITE: Acme Steel, Chicago Coke Plant DATE: 1 August 2002

PHOTO NO: 57 DIRECTION: NW SUBJECT: Reportedly empty propane and oxygen tanks in storage together at east side of Powerhouse.

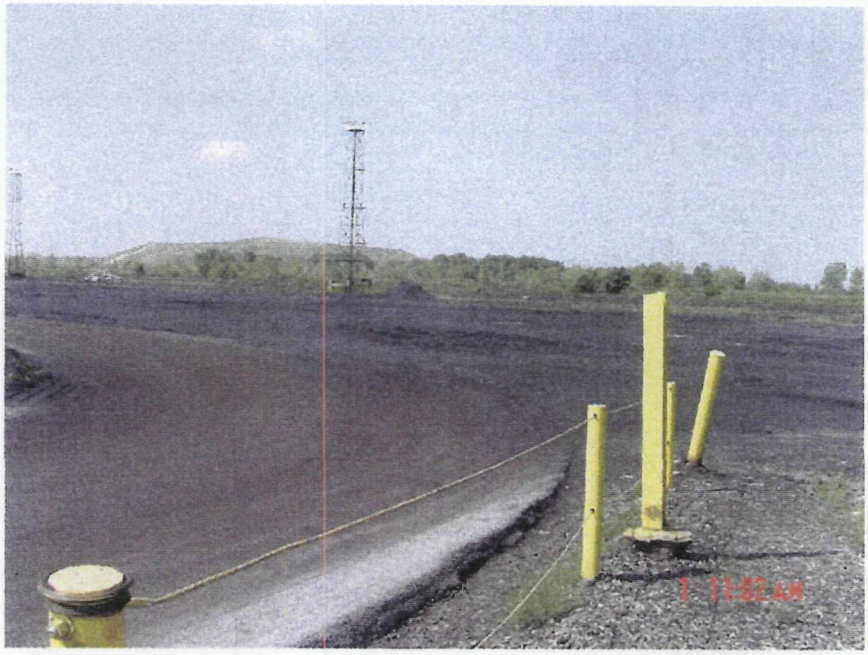
PHOTOGRAPHER: START - J. Klemp



SITE: Acme Steel, Riverdale Facility DATE: 31 July 2002

PHOTO NO: 58 DIRECTION: N SUBJECT: Reportedly empty propane and oxygen tanks in storage together at east side of Powerhouse.

PHOTOGRAPHER: START - J. Klemp



SITE: Acme Steel, Chicago Coke Plant

DATE: 1 August 2002

PHOTO NO: 59

SUBJECT: Coal storage area. Note dark staining.

PHOTOGRAPHER: START - J. Klemp

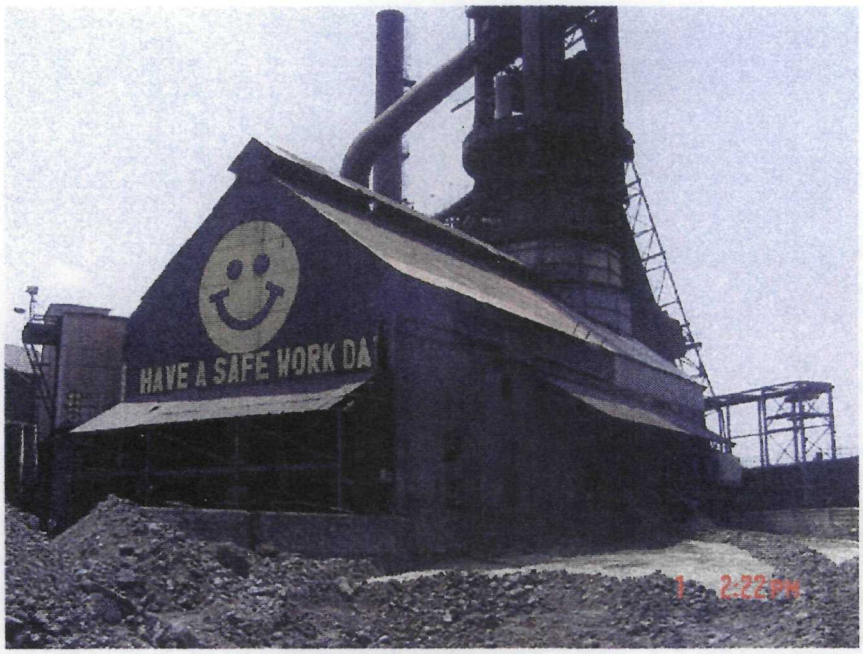
SITE: Acme Steel, Chicago Furnace Plant

DATE: 1 August 2002

PHOTO NO: 60

SUBJECT: Abandoned torpedo rail cars outside Building 3 (Ladle Refining). Note stained gravel near rail tracks.

PHOTOGRAPHER: START - J. Klemp



SITE: Acme Steel, Chicago Furnace Plant

DATE: 1 August 2002

PHOTO NO: 61

SUBJECT: **Blast furnace.**

PHOTOGRAPHER: START - J. Klemp

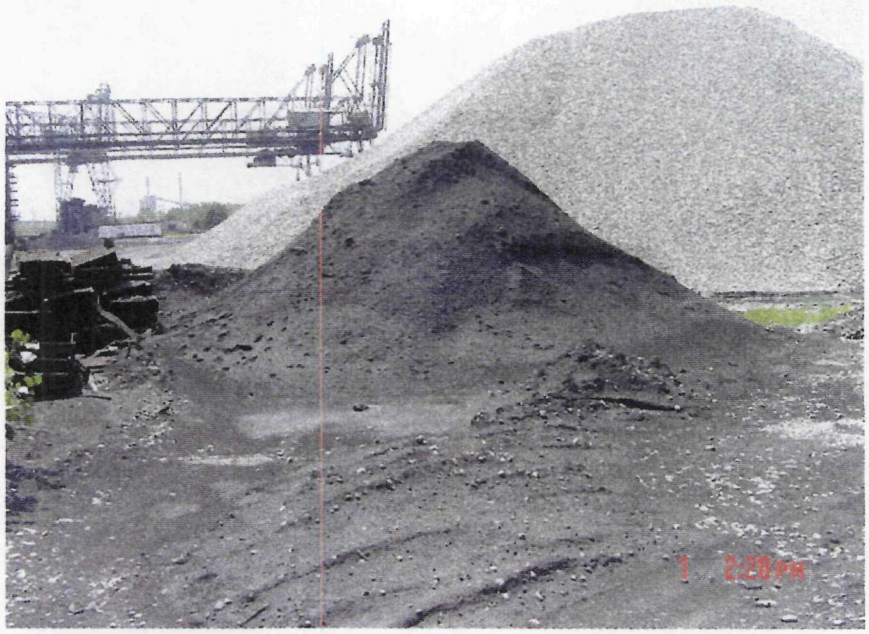
SITE: Acme Steel, Chicago Furnace Plant

DATE: 1 August 2002

PHOTO NO: 62

SUBJECT: Friable asbestos on ground near Outfall 004, east edge of plant property.

PHOTOGRAPHER: START - J. Klemp



SITE: Acme Steel, Chicago Furnace Plant

DATE: 1 August 2002

PHOTO NO: 63 DIRECTION: S

SUBJECT: **Pile of blowdown sludge from wastewater treatment system, south of clarifiers.**

PHOTOGRAPHER: START - J. Klemp

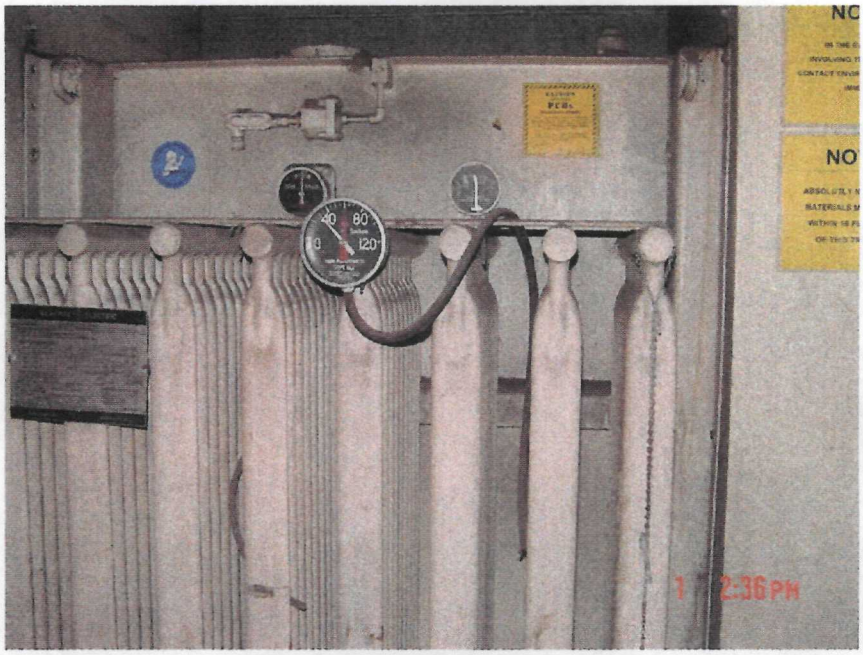
SITE: Acme Steel, Chicago Furnace Plant

DATE: 1 August 2002

PHOTO NO: 64 DIRECTION: S

SUBJECT: Plant loading dock.

PHOTOGRAPHER: START - J. Klemp



SITE: Acme Steel, Chicago Furnace Plant

DATE: 1 August 2002

PHOTO NO: 65

SUBJECT: **Labeled PCB transformer in Building 18.**

PHOTOGRAPHER: START - J. Klemp

SITE: Acme Steel, Chicago Furnace Plant

DATE: 1 August 2002

PHOTO NO: 66

SUBJECT: Severed pipe that was leaking oil/tar, near blast furnace loading area.

PHOTOGRAPHER: START - J. Klemp

SITE: Acme Steel, Chicago Furnace Plant

DATE: 1 August 2002

PHOTO NO: 67

SUBJECT: Lead/acid batteries in storage in basement of Maintenance Shop.

PHOTOGRAPHER: START - J. Klemp

SITE: Acme Steel, Chicago Furnace Plant

DATE: 2 August 2002

PHOTO NO: 68 DIRECTION: N

SUBJECT: Greenish liquid inside South Outfall Basin.

PHOTOGRAPHER: START - J. Klemp

Attorney/Client Privileged Document

Document retainable

July 2, 2001
Project No. 0545-01-02

Phase II Environmental Site Assessment

Acme Steel Company and
Acme Packaging Corporation
Riverdale Plants
13500 South Perry Avenue
Riverdale, Illinois 60827

Prepared For:

[redacted] METALS INCORPORATED

Mr. Edward P. Weber, Jr.
Vice President, General Counsel & Secretary
13500 South Perry Avenue
Riverdale, Illinois 60827

Weaver Boos & Gordon, Inc.

GEO-ENVIRONMENTAL ENGINEERS AND SCIENTISTS
Chicago, IL Griffith, IN Albuquerque, NM

Attorney/Client Privileged Document

EXECUTIVE SUMMARY

Weaver Boos & Gordon, Inc. (*Weaver Boos*) has completed a preliminary Phase II Environmental Site Assessment (Phase II ESA) on behalf of Acme Metals Incorporated (AMI). The subject of this Phase II ESA is the Acme Steel Company (ASC-Riverdale) and the Acme Packaging Corporation (APC-Riverdale) plants located at 13500 South Perry Avenue in Riverdale, Illinois (collectively the "Properties"). For purposes of this assessment, the adjoining ASC-Riverdale and APC-Riverdale plants are divided as shown in **Figures 1 and 2**.

In accordance with Acme's request, 12 soil probes were advanced to assess potential subsurface impacts associated with selected *recognized environmental conditions* identified during concurrent Phase I ESAs and to provide a preliminary assessment of subsurface soil and groundwater quality. For detailed information regarding *recognized environmental conditions*, refer to the Phase I ESA reports prepared by Weaver Boos for each of the Properties. Soil and (in many probes) groundwater samples were collected and submitted for laboratory analysis for various parameters. Analytical results were compared to the Illinois Environmental Protection Agency (IEPA) Tiered Approach to Corrective Action Objectives (TACO).

Results of the Phase II ESA indicate that concentrations of PNAs and BTEX detected in all soil samples were below the TACO Tier 1 Site Remediation Objectives (SROs) for Industrial/Commercial Properties. Total barium, cadmium, chromium, and lead concentrations exceeded Tier 1 SROş and/or potentially applicable background concentrations for Metropolitan Statistical Areas (MSAs) in soil probe GP-4 advanced to the north of Building No. 32 in an area of drum storage. The single most prominent sample result was for total lead detected at a concentration of 22,000 mg/kg in GP-4. The total lead concentration detected in soil probe GP-8, advanced at the south end of Building No. 22 also exceeded the MSAs background. Total arsenic concentrations, ranging between approximately 6.5 mg/kg and 13 mg/kg, exceeded Tier 1 SROs and/or MSAs in each soil sample analyzed.

In the groundwater, the concentration of sulfate exceeded its respective Class II Groundwater Remediation Objective in soil probe GP-1 advanced north of the Melt Shop. In the groundwater, the concentration of benzo(b)fluoranthene exceeded both the Class I and Class II Groundwater Remediation Objectives in soil probe GP-3. The concentration of chrysene in groundwater obtained from GP-3 exceeded its Class I Groundwater Remediation Objective. Soil probe GP-3 was advanced at the north end of Building No. 60 where a UST had been previously removed

and closed. The concentrations of total lead exceeded both Class I and Class II Groundwater Remediation Objectives in groundwater samples collected from soil probes GP-3, GP-4, GP-8, and GP-11, advanced at the north end of Building No. 60, north of Building No. 32, at the south end of Building No. 22, and at the east end of Building No. 8, respectively.

Interpretation of analytical results for soil and groundwater is dependent upon the classification of groundwater beneath a facility, the specific regulatory program(s) that may apply, and, under certain scenarios, the current and future use of the lands involved. Detailed evaluations of these factors are not undertaken in this preliminary Phase II ESA. At the present time, Weaver Boos is unaware of circumstances or specific regulatory requirements compelling reporting, further investigation, and/or remediation based on the foregoing Phase II ESA results.

PHASE II ENVIRONMENTAL SITE ASSESSMENT
Acme Steel Company and
Acme Packaging Corporation
Riverdale Plants
13500 South Perry Avenue
Riverdale, Illinois

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PHASE II ENVIRONMENTAL SITE ASSESSMENT
Acme Steel Company and
Acme Packaging Corporation
Riverdale Plants
13500 South Perry Avenue
Riverdale, Illinois

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Attorney/Client Privileged Document

1.0 INTRODUCTION

Weaver Boos & Gordon, Inc. (Weaver Boos) has completed a preliminary Phase II Environmental Site Assessment (Phase II ESA) of portions of the Acme Steel Company (ASC-Riverdale) and adjoining Acme Packaging Corporation (APC-Riverdale) Properties located at 13500 South Perry Avenue in Riverdale, Illinois (see **Figure 1 - Site Location Map**). This work was conducted for the benefit of Acme Metals Incorporated (AMI). For purposes of this assessment, the adjoining ASC-Riverdale and APC-Riverdale Properties are divided as shown in **Figures** 1 and 2.

In accordance with Acme's request, soil probes were advanced to assess potential subsurface impacts associated with selected *recognized environmental conditions* identified during concurrent Phase I ESAs and to provide a preliminary assessment of subsurface soil and groundwater quality beneath the Properties. For detailed information regarding *recognized environmental conditions*, refer to the Phase I ESA reports prepared by Weaver Boos for each of the Properties. Soil and (and at most probe locations) groundwater samples were collected and submitted for laboratory analysis for various parameters. Analytical results were compared to the Illinois Environmental Protection Agency (IEPA) Tiered Approach to Corrective Action Objectives (TACO).

The following sections of this report describe the preliminary Phase II ESA. Analytical data are summarized in the attached **Tables**. Soil probe logs are compiled in **Appendix A**. Analytical results for soil samples are presented in **Appendix B**. Analytical results for groundwater samples collected from the soil probes are presented in **Appendix C**.

2.0 SUBSURFACE SAMPLING ACTIVITIES

2.1 Sampling Locations and Rationale

A total of 12 soil probes were advanced in at locations illustrated in **Figure 2**. Consistent with the objectives of this assessment, soil probe locations were initially chosen by AMI in consultation with Mr. Fred G. Krikau, former Director of Environmental Services for Interlake, Inc. (a predecessor to Acme Steel Company). Subsequently, the soil probe locations were subject to minor adjustment in the field. Minor adjustments were made to avoid numerous underground utilities and structures and to accommodate exploration of the nearest *recognized environmental condition(s)* identified during the Phase I ESA conducted at each Property. Several of the soil probe locations were located without specific regard for *recognized environmental conditions*, but were chosen to provide a generalized characterization of the two Properties. Soil probe locations are further discussed as follows.

Soil probe GP-1 was advanced at a location north (plant north) of the Melt Shop and soil Probe GP-2 was advanced south of the Melt Shop. Soil probe GP-3 was advanced at the north end of the Maintenance Shop Building No. 60 in an area where a UST had been previously removed and closed. Soil probe GP-4 was advanced north of Building No. 32, in an area of drum/container storage. Soil probe GP-6 was advanced to the east of the Sandfilter clarifier, formerly part of the No. 4 Hot Strip Mill high-capacity sand filtration and wastewater treatment plant located at the southwest corner of the ASC-Riverdale Property. Soil probe GP-7 was advanced inside the west end of the Billet Yard (Building No. 39). Soil probe GP-9 was advanced adjacent to a scale pit along the south side of the former #4 Hot Strip Mill (Building No. 9). Soil probe GP-11 was advanced at the east end of Building No. 8, near the location where two USTs had been previously removed and closed.

Soil probe GP-5 was advanced at the northeast corner of Building No. 15 (former No. 3 Hot Strip Mill). Soil probe GP-8 was advanced at the south end of Building No. 22 where a UST had been removed and closed. Soil probe GP-10 was advanced at the northwest corner of the Boiler House. Soil probe GP-12 was advanced to the north of Building No. 33 which currently houses plastic strapping manufacturing lines.

Soil samples were collected from each soil probe at various depths. The depth intervals submitted for analysis were selected to represent soil horizons representing the greatest

qualitative indications of contamination based on odors and field screening tests. Groundwater samples were collected from the following soil probes that yielded water: GP-1, GP-2, GP-3, GP-4, GP-6, GP-7, GP-8, and GP-11. Groundwater samples were collected from the shallowest saturated soil horizons encountered at each location.

2.2 Sampling Methodology

Under the direction of Weaver Boos representative, soil probes were advanced under subcontract by Enviro-Dynamics, LLC, of Hobart, Indiana utilizing a Geoprobe Model R 5400 probe unit mounted on a 4 x 4 pick-up truck. The soil probes were advanced in two-foot increments by repeatedly driving a two-foot long, two-inch diameter core sampler into the subsurface using percussive and hydraulic down-force. The subcontractor decontaminated the sampler before each sample was collected. Decontamination consisted of an initial wash with an Alconox/water solution, followed by a potable water rinse. Upon retrieval, each soil sample was described and logged by a Weaver Boos representative. The Weaver Boos field representative noted color, soil type, moisture content, and other applicable characteristics for each soil sample. This data was then used to construct a log of the subsurface conditions encountered at each probe location.

In addition to soil samples, groundwater samples were collected from probes containing sufficient groundwater to allow sampling. Water samples were collected from intervals of saturated sand or silt and also from perched water encountered in fill material. The samples were collected by advancing a GeoProbe Mill Slot and/or Screen Point 15 sampler to the desired target depth. Water samples were retrieved using a disposable polyethylene bailer or peristaltic pump with Tygon and polyethylene tubing and transferred to appropriate sample containers.

2.2.1 Soil Sample Collection and Preservation

Representative portions of each sample interval were placed into pre-cleaned, laboratory supplied sample containers for subsequent laboratory analysis. In addition, split aliquots were separately containerized for organic vapor screening in the field using a portable photoionization detector (PID). The sample containers were tightly capped, labeled, and logged onto a chain-of-custody (COC) form which is used to track the samples from the point of collection to receipt by the laboratory. Once logged onto the COC, the samples were placed in a cooler and packed with ice to maintain their temperature near 4° C.

2.2.2 Water Sample Collection and Preservation

Groundwater was sampled using a peristaltic pump with Tygon and polyethylene tubing inserted into the temporary GeoProbe Mill Slot and/or Screen Point 15 sampler. Where sufficient yields were available, approximately three to five well volumes of water were purged from the probe prior to sample collection. Water samples were transferred to appropriate sample containers containing preservatives appropriate for the analytes of interest. The sample containers were tightly capped, labeled, and logged onto a chain-of-custody (COC) form which is used to track the samples from the point of collection to receipt by the laboratory. Samples were placed in a cooler and packed with ice to maintain a temperature near 4°C. Following collection, the samples were submitted for analysis to SimaLabs International located in Merrillville, Indiana.

2.2.3 Field Screening

The soil samples were field screened for visual and olfactory indications of environmental impacts. Samples were screened for the presence of VOCs using a Microtip photoionization detector (PID) equipped with a 10.6 eV lamp. The PID provides a qualitative measurement of VOCs contained in the sample. The field screening process involved placing the sample in a zip-lock plastic bag. The headspace was then sampled and soil-gas VOC concentrations were measured and recorded by the Weaver Boos representative. Due to difficulties with the PID, it is noted that field screening was successfully completed in five of the 12 soil probes.

2.2.4 Analytical Parameters and Methods

Sampling and laboratory analysis was performed in general accordance with the techniques and methods as outlined in *USEPA SW-846, Test Methods For Evaluating Solid Waste, Third Edition*, and other published sources. In accordance with the scope of work established for this project, all samples were analyzed for the following parameters:

- Benzene, Toluene, Ethylbenzene, and Xylene (BTEX) using USEPA Method 5035/8260B;
- Polynuclear Aromatic Hydrocarbons (PNAs) using USEPA Method 8270C and 8310; and,
- RCRA Metals using USEPA Method 6010B, 7471A, and 7470A.

In addition, select samples were also analyzed for the following parameters:

- Chloride using USEPA Method M4500-CL B; and
- Sulfate using USEPA Method E375.4.

Soil samples were collected and submitted for laboratory analysis from the interval exhibiting the greatest indication of volatile organic impacts based on visual appearance, odor, and/or PID readings.

3.0 DISCUSSION OF RESULTS

3.1 General Subsurface Conditions and Geology

The initial soil probe, GP-1, was advanced to a depth of approximately 28 feet. The remaining soil probes were advanced to a depth of approximately 24 feet. The shallow unconsolidated materials beneath the Properties were found to consist of near surface man-placed fill material underlain by glacial deposits of silty clay, and in a few locations, layers of sand. The sands were generally observed to be saturated. Overall, the site-specific subsurface profiles were consistent with the published literature regarding the composition of unconsolidated deposits. Beginning at the ground surface, the following generalized geologic units were encountered in soil probes:

- Non-native fill material;
- Black silty clay;
- Brown sand;
- Gray sand;
- Brown with gray mottled silty clay with some sand; and,
- Gray silty clay with some sand.

For detailed descriptions of soils encountered at each location, refer to the Soil Probe Logs presented in **Appendix A**. Overall, the unconsolidated geology beneath the Properties suggests low hydraulic conductivities that will under certain circumstances mitigate the subsurface migration of petroleum products and hazardous substances to underlying groundwater an adjoining surface waters.

3.2 Analytical Results

Analytical results for soil samples are summarized in **Table 1**. Analytical results for groundwater are summarized in **Table 2**. As shown in **Table 1**, analytical results were compared with TACO Tier 1 Soil Remediation Objectives (SROs) for Industrial/Commercial Properties. In addition, if metals concentrations exceeded Tier 1 SROs, then they were compared to the Concentration of Inorganic Chemical in Background Soil for Metropolitan Statistical Areas (MSAs). As shown in **Table 2**, analytical results for groundwater were compared to Class I and Class II Groundwater Remediation Objectives. The laboratory analytical reports, including

chain-of-custody documentation, are attached in **Appendices B and C**. The following subsections summarize the laboratory analytical results for each area of exploration.

3.3 Soil Sample Results

3.3.1 General Property

Soil samples GP-1, collected from a depth of 14 to 16 feet below ground surface (bgs), GP2 (6-8 feet bgs), GP-5 (4-6 feet bgs), GP-7 (5-7 feet bgs), and GP-12 (6-8 feet bgs) were collected from the soil probes at various locations intended to assess general conditions. BTEX and PNA results were below laboratory detection limits for these soil samples with the exception of toluene and xylene in GP-7 (5-7 feet bgs). Toluene and xylene results were below the Tier 1 SROs for Industrial/Commercial Properties. Several RCRA metals results exceeded laboratory detection limits. Concentrations of RCRA metals that exceeded laboratory detection limits were below TACO Tier 1 SROs for Industrial/Commercial Properties and MSAs with the exception of arsenic. Arsenic exceeded TACO Tier 1 Ingestion SROs and MSAs for each of these soil samples.

3.3.2 Location of Former USTs

Soil samples GP-3 (14-16 feet bgs), GP-8 (4-6 feet bgs), and GP-11 (8-10 feet bgs) were collected in the vicinity of a former 500-gallon waste oil, 12,000-gallon gasoline, and two 10,000-gallon waste oil USTs, respectively. BTEX and PNA results were below laboratory detection limits for these soil samples with the exception of fluoranthene, phenanthrene, and pyrene in GP-8 (4-6 feet bgs). Fluoranthene, phenanthrene, and pyrene results were below Tier 1 SROs for Industrial/Commercial Properties. Several RCRA metals results exceeded laboratory detection limits. RCRA metals results that exceeded laboratory detection limits were below TACO Tier 1 SROs Industrial/Commercial Properties and/or MSAs with the exception of arsenic and lead. Arsenic exceeded the TACO Tier 1 Ingestion SRO and MSAs for each of these soil samples and lead in sample GP-8 (4-6 feet bgs).

3.3.3 AST Locations

Soil samples GP-6 (6-8 feet bgs) and GP-10 (6-8 feet bgs) were collected in vicinity of the AST located north of Building No. 58 and the oil AST located at the northwest corner of Building No. 3 (GP-10), respectively. Concentrations of BTEX and PNA constituents were below laboratory detection limits for these soil samples. Several RCRA metals exhibited concentrations that

exceeded laboratory detection limits. RCRA metals results that exceeded laboratory detection limits were below TACO Tier I SROs for Industrial/Commercial Properties and/or MSAs with the exception of arsenic. Arsenic exceeded TACO Tier 1 Ingestion SROs and MSAs for each of these soil samples.

3.3.4 Scale Pits

Soil sample GP-9 (8-10 feet bgs) was collected in the vicinity of one of the outside scale pits located south of the western portion of Building No. 9. Concentrations of BTEX and PNA constituents were below laboratory detection limits at this location. RCRA metals results that exceeded laboratory detection limits were below TACO Tier 1 SROs for Industrial/Commercial Properties and/or MSAs with the exception of arsenic.

3.3.5 Wean Plant Area

Soil sample GP-10 (6-8 feet bgs) was collected at the northwest corner of Building No. 3, near the Wean Plant. Concentrations of BTEX and PNA constituents were below laboratory detection limits for these soil samples. Several RCRA metals exhibited concentrations that exceeded laboratory detection limits. RCRA metals results that exceeded laboratory detection limits were below TACO Tier 1 SROs for Industrial/Commercial Properties and/or MSAs with the exception of arsenic.

3.3.6 55-Gallon Drum Storage Area

Soil sample GP-4 (2-4 feet bgs) was collected in the drum storage area west of Building No. 32. Concentrations of BTEX and PNA constituents were below laboratory detection limits in this soil sample. Several RCRA metals exhibited concentrations that exceeded laboratory detection limits. Concentrations of RCRA metals that exceeded laboratory detection limits were below TACO Tier 1 SROs for Industrial/Commercial Properties with the exception of arsenic, barium, chromium, and lead. The single most prominent sample result was for total lead detected at a concentration of 22,000 mg/kg in GP-4. The concentration of cadmium reported in this sample somewhat exceeds the MSAs background level for this element.

3.4 Water Sample Results

BTEX analytical results were below laboratory detection limits with the exception of xylene in GP-3, GP-6, and GP-7. Xylene results were below Tier 1 Water Remediation Objectives, Class I Water. PNAs results were below laboratory detection limits with the exception of anthracene

(170 ug/l), benzo(b)fluoranthene (9.4 ug/l), chrysene (6.6 ug/l), fluoranthene (12 ug/l), phenanthrene (13 ug/l), and pyrene (16 ug/l) in GP-3. In the groundwater, the indicated concentration of benzo(b)fluoranthene exceeded both the Class I and Class II Groundwater Remediation Objectives in soil probe GP-3. The concentration of chrysene in groundwater obtained from GP-3 exceeded its Class I Groundwater Remediation Objective. In addition, water samples GP-2, GP-3, GP-4, and GP-6 exhibited concentrations of phenanthrene ranging from 0.17 to 13 ug/l. TACO establishes no Groundwater Remediation Objectives for phenanthrene.

Water samples GP-1, GP-2, GP-4, and GP-8 exhibited concentrations of chloride ranging from 150 to 750 mg/l. There are no remediation objectives established for chloride. Water samples GP-1, GP-2, GP-4, and GP-8 exhibited concentrations of sulfate ranging from 84 to 830 mg/l. These concentrations were below Class I Groundwater Remediation Objectives of 400 mg/l, except for GP-1 (830 mg/l).

Each water sample exhibited concentrations of metals that were below Class I Groundwater Remediation Objectives except for total lead, and in one sample, selenium. Total lead results exceeded the Class I Groundwater Water Remediation Objective of 0.0075 mg/l, as well as the Class II Groundwater Remediation Objective of 0.1 mg/l in water samples obtained from probes GP-3 (0.22 mg/l), GP-4 (1.3 mg/l), GP-8 (0.93 mg/l), and GP-11 (0.24 mg/l). The total selenium concentration detected in sample GP-7 exceeded both groundwater remediation objectives.

4.0 FINDINGS AND CONCLUSIONS

In accordance with Acme's request, 12 soil probes were advanced to assess potential subsurface impacts associated with selected *recognized environmental conditions* identified during concurrent Phase I ESAs and to provide a preliminary assessment of subsurface soil and groundwater quality. For detailed information regarding *recognized environmental conditions*, refer to the Phase I ESA reports prepared by Weaver Boos for each of the Properties. This Phase II ESA addresses both the ASC-Riverdale and APC-Riverdale Properties. Soil and (in many probes) groundwater samples were collected and submitted for laboratory analysis for various parameters. Analytical results were compared to the Illinois Environmental Protection Agency (IEPA) Tiered Approach to Corrective Action Objectives (TACO).

Results of the Phase II ESA indicate that concentrations of PNAs and BTEX detected in all soil samples were below the TACO Tier 1 Site Remediation Objectives (SROs) for Industrial/Commercial Properties. Total barium, cadmium, chromium, and lead concentrations exceeded Tier 1 SROs and/or potentially applicable background concentrations for Metropolitan Statistical Areas (MSAs) in soil probe GP-4 advanced to the north of Building No. 32 in an area of drum storage. The single most prominent sample result was for total lead detected at a concentration of 22,000 mg/kg in GP-4. The total lead concentration detected in soil probe GP-8, advanced at the south end of Building No. 22 also exceeded the MSAs background. Total arsenic concentrations, ranging between approximately 6.5 mg/kg and 13 mg/kg, exceeded Tier 1 SROs and/or MSAs in each soil sample analyzed.

In the groundwater, the concentration of sulfate exceeded its respective Class II Groundwater Remediation Objective in soil probe GP-1 advanced north of the Melt Shop. In the groundwater, the concentration of benzo(b)fluoranthene exceeded both the Class I and Class II Groundwater Remediation Objectives in soil probe GP-3. The concentration of chrysene in groundwater obtained from GP-3 exceeded its Class I Groundwater Remediation Objective. Soil probe GP-3 was advanced at the north end of Building No. 60 where a UST had been previously removed and closed. The concentrations of total lead exceeded both Class I and Class II Groundwater Remediation Objectives in groundwater samples collected from soil probes GP-3, GP-4, GP-8, and GP-11, advanced at the north end of Building No. 60, north of Building No. 32, at the south end of Building No. 22, and at the east end of Building No. 8, respectively.

Interpretation of analytical results for soil and groundwater is dependent upon the classification of groundwater beneath a facility, the specific regulatory program(s) that may apply, and, under certain scenarios, the current and future use of the lands involved. Detailed evaluations of these factors are not undertaken in this preliminary Phase II ESA. At the present time, Weaver Boos is unaware of circumstances or specific regulatory requirements compelling reporting, further investigation, and/or remediation based on the foregoing Phase II ESA results.

5.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

This Phase II ESA was performed by, or under the direct supervision of, the undersigned environmental professionals.

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Steven M. Stanford, L.P.G.
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